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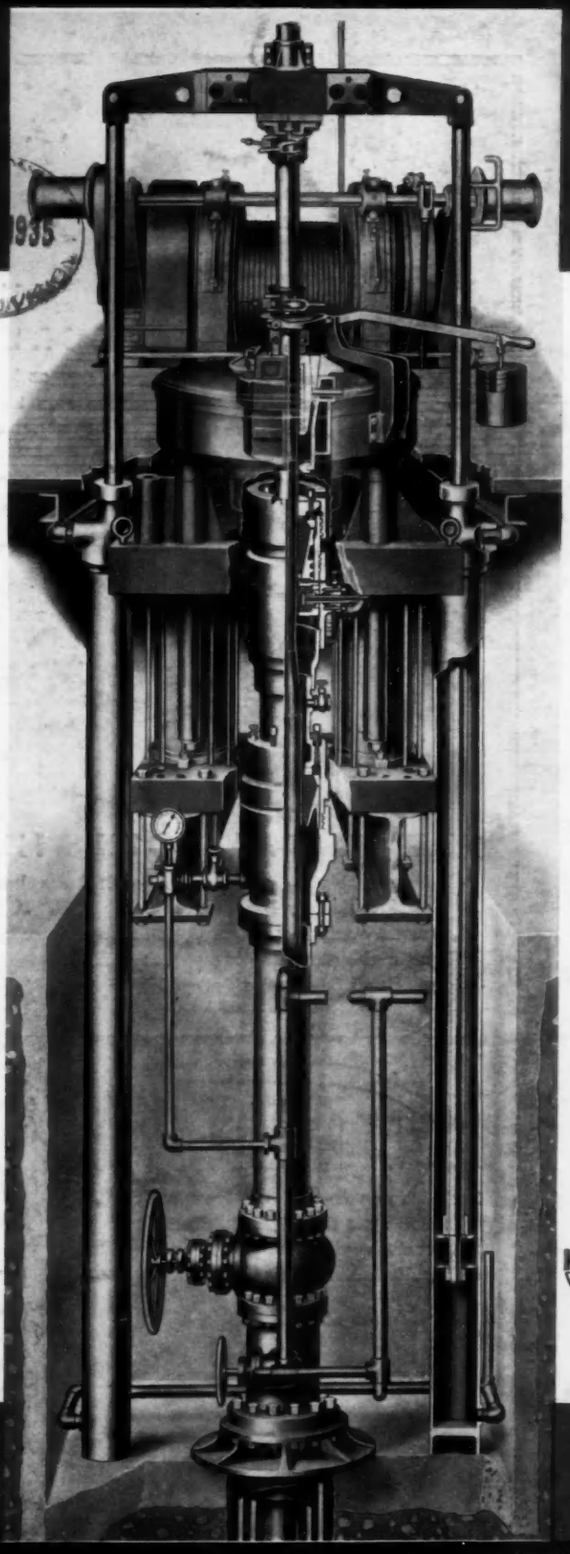

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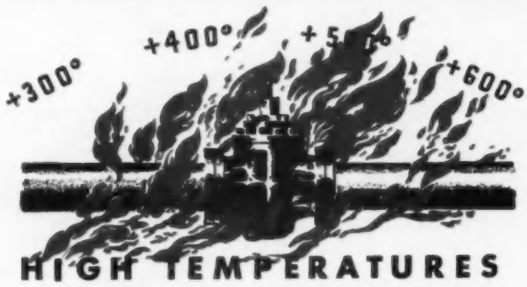

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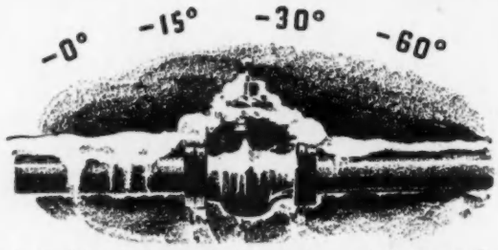

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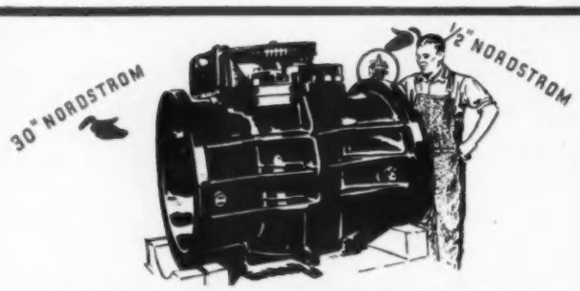

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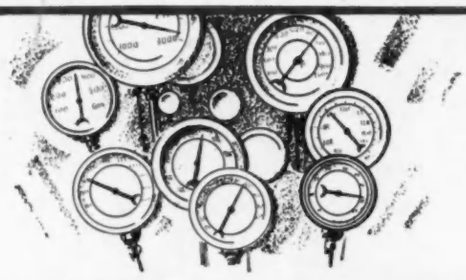

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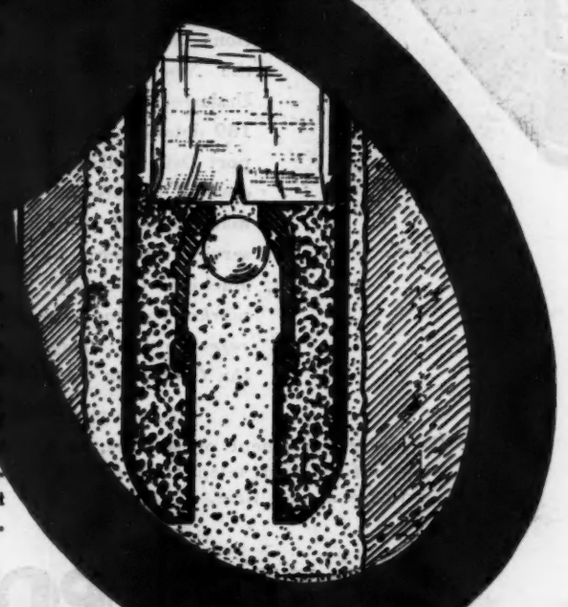

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THE OIL WEEKLY

ENGINEERING • NEWS • STATISTICS

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Contents • July 8, 1935

Volume 78, Number 4

THIS WEEK 7

THE CHANGING PANORAMA 11

GENERAL NEWS:

Proration Valid—Texas Conservation and Commission Orders are Upheld 8
Oil Investigation Contemplated by NRA Officials 8
California Output for July Limited to June Figure 9
Price Cut Local—South Texas Heavy Oil Cut Five Cents 10
Spacing Regulations First Major Issue Before New Mexico Commission 10
Men In the Industry's News 15
Squeaks from the Bull Wheels 81

ENGINEERING AND TECHNICAL:

Heaving Shale Attempt of Continental Oil Company Using Interesting Methods and Equipment 17
By EARL S. POST
Gas Measurement As It Is Influenced by Barometric Pressure 20
By E. E. STOVALL
Geophysical Prospecting Successful in San Joaquin Valley 28
By BRAD MILLS
California Oil Reserves—Part II 31
By J. EDMUND EATON

MARKETS AND STATISTICS:

Markets Unsettled—Mid-Continent Disturbed by Texas Crude Cut 41
U. S. Production 43
New Well Permits 44
Summary of Completions 45
Crude Runs to Stills 44

WORLD DEVELOPMENTS 47

PIPE LINE ACTIVITIES 51

WEEKLY FIELD REPORTS 52

NEW PRODUCTS AND EQUIPMENT NEWS 78

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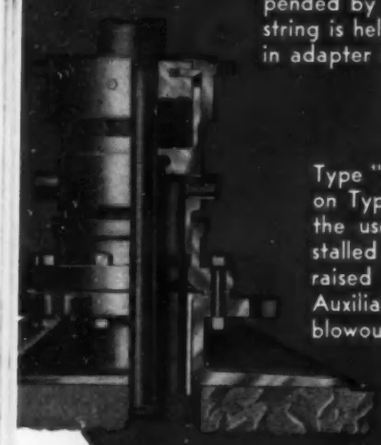
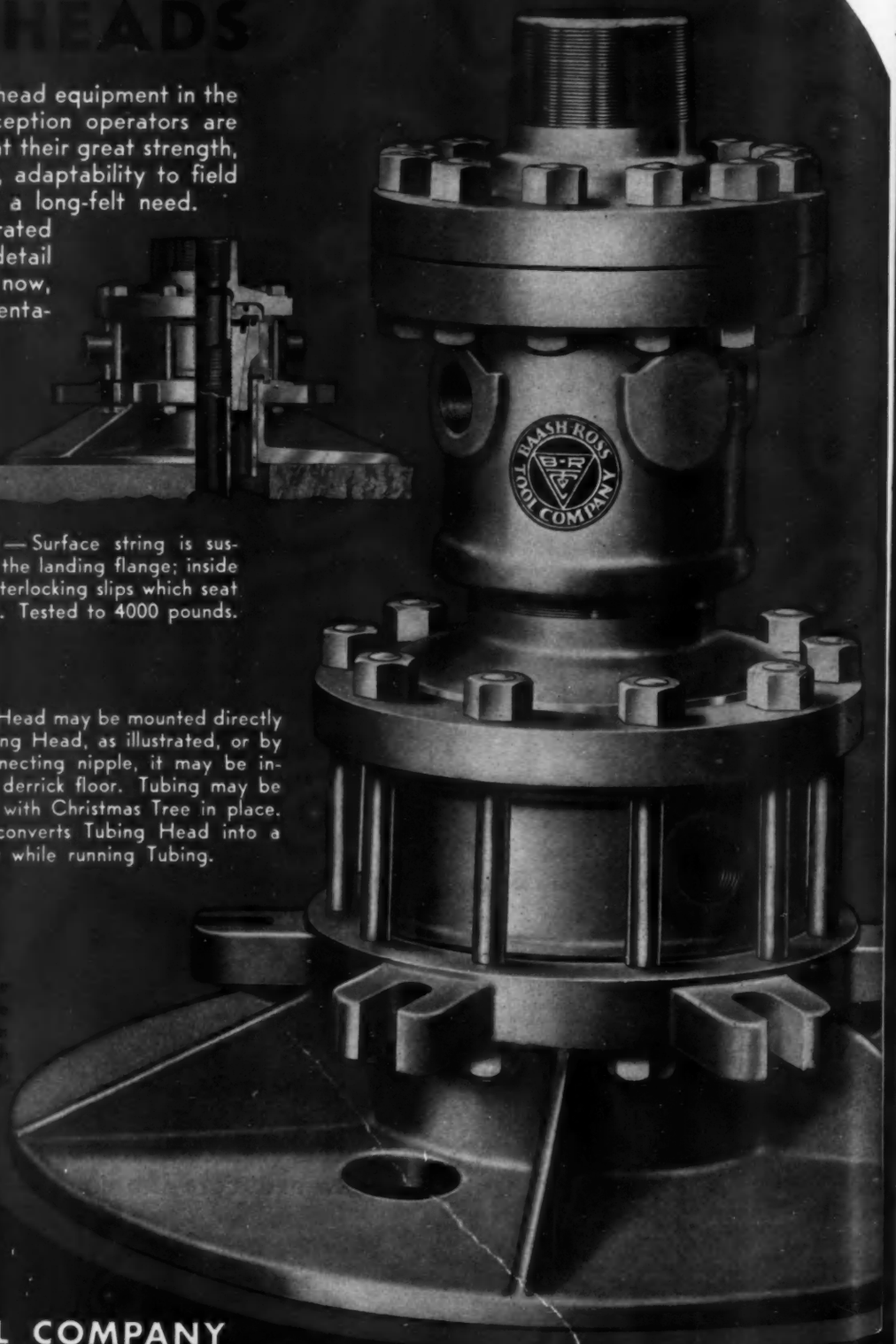


Type "A" Tubing Head may be mounted directly on Type "B" Casing Head, as illustrated, or by the use of a connecting nipple, it may be installed above the derrick floor. Tubing may be raised or lowered with Christmas Tree in place. Auxiliary packer converts Tubing Head into a blowout preventer while running Tubing.



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THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor

. . . this Week

OF importance was the ruling of a three-judge federal court upholding the constitutionality of the Texas conservation laws and sustaining the validity of Texas Railroad Commission proration orders in the East Texas field. It also was expected that the court would render a decision on the validity of the new state confiscation law, but it declined because the case has not been heard in lower courts. In making the decisions the court refused to grant the complaining companies a temporary injunction, which would have prevented the Railroad Commission from interfering with any of their business operations. In many quarters the decision was hailed as the forerunner of better production control by state authorities. **Page 8.**

OFFICIALS of the National Recovery Administration are considering recommending exhaustive investigations of 14 major industries, including petroleum. The purpose would be to disclose conditions prior to adoption of the codes, improvements made while observing the code, and the retrogression following invalidation of the code-making provisions. This information would be used as a basis for proposing legislation to control a number of industries. **Page 8.**

THE California gasoline price war situation continued to grow worse during the past week. Prices in southern California were reduced to 12.5, 13.5 and 15.5 depending upon grade. Meanwhile the crude market continued to hold firm, with hopes stronger that production will be curtailed during July so as to advert dangers of a reduction in postings for raw material.

There was little change in gasoline markets outside of California. **Page 41.**

SOUTH TEXAS fields producing a heavy grade of oil received a five-cent price reduction during the past week. The condition is believed due to local situation brought about by an onrush of drilling, new field discoveries, seasonal demand decline and lack of outlet facilities. As a result of the reduced price postings, the Texas Railroad Commission, for the first time in its history, cut back allowables of the fields to support the weakened market. **Page 10.**

IN order to obtain accurate volumes in measuring gas it is necessary that the average barometric pressure at the point of measurement be known. This is required so as to be able to establish the absolute pressure of the flowing gas. E. E. Stovall, Lone Star Gas Company, discusses the effect and remedies for barometric pressures in this book. **Page 20.**

The Oil Man's Calendar

AUGUST

American Petroleum Equipment Suppliers Association.

19-24 American Chemical Society, San Francisco, California.

SEPTEMBER

18-20 National Petroleum Association, Atlantic City, New Jersey.

OCTOBER

10-12 A.I.M.E. Petroleum Division, Mid-Continent Section, Houston, Texas.

16-17 American Association of Petroleum Geologists, Mid Year Meeting, Mexico City, Mexico.

NOVEMBER

4-5 Independent Petroleum Association of America, Annual Meeting, Dallas, Texas.

11-14 American Petroleum Institute, Annual Meeting, Biltmore Hotel, Los Angeles.

CALIFORNIA'S allowable for July will be 512,700 barrels, which is the same as for June. Umpire Pemberton informed producers there was no increase because of excess June production, and unless the state's output is curtailed to the allocation there is likelihood of a crude price cut. **Page 9.**

NEW MEXICO'S newly created Oil Conservation Commission has its first major issue. A difference of opinion among operators in Lea County pools as to the proper spacing rules has brought this question before members of the committee. The commission has taken under advisement a tentative draft calling for 660-foot spacing. Heretofore, most Lea County wells have been drilled in the center of 40 acres. If a 660-foot spacing regulation is adopted, Lea County's prolific producing areas will become the scene of the greatest drilling campaign in their history. **Page 10.**

SOME 225,000,000 barrels of new discoveries are needed annually if California is to meet its demand in 1941. This is a sizeable order and will require continued drilling operations. However, the state has important prospective reserves, including untested zones and particularly deeper horizons. **Page 31.**

THE difficulty of drilling in heaving shale formations represents an important engineering and mechanical problem of importance to future crude oil supplies, and consequently any attempts to drill this type of strata are always of interest. Continental Oil Company is trying to drill heaving shale by the use of powerful drilling equipment, a special type of combination casing and drill stem, and a collapsible drilling bit on a test in Calhoun County, Texas. The interesting drilling plan being used is described in this issue. **Page 17.**

THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN E. BAKER, Editor

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Proration Valid

TEXAS CONSERVATION LAWS AND COMMISSION ORDERS UPHELD

HOUSTON.

A THREE-JUDGE federal court here July 2 upheld constitutionality of the Texas oil conservation laws and sustained validity of the Texas Railroad Commission's East Texas proration program, as embodied in orders for the past several years.

At the same time, the court indicated that complaints against the new Texas hot oil confiscation law must be taken into the state courts for settlement.

These rulings were made from the bench, following a 1½-day hearing, with United States Circuit Judge Rufus Foster, of New Orleans, speaking for the court. Other members of the court included Federal District Judges R. J. McMillan of San Antonio and T. M. Kennerly of Houston.

In making the decisions, the court denied the application for temporary injunction, asked by more than a dozen East Texas refiners, who sought to restrain the railroad commission from interfering with their oil operations or attempting to confiscate oil in their possession.

Notice of appeal was given by complainants, and Judge Foster urged them to perfect their appeal quickly, to permit its presentation to the Supreme Court in October.

The hot oil confiscation phase of the litigation was perhaps the part drawing more attention, as the law involved is new and had not yet been before the courts; while the general oil conservation law and the railroad commission's East Texas orders have been upheld previously, in federal and state courts.

In the cases, there was an attack on the constitutionality of the oil confiscation law, which authorizes the state to confiscate and sell, by auction, oil produced in violation of the state's oil laws and regulations. The law also provides for regulation of tank trucks, with the object of eliminating the trucking of hot gasoline or other oils. The court declined, however, to pass on the law's constitutionality, granting the state's motion to dismiss, and holding that the court did not have jurisdiction over the question. It was brought out that complainants did not operate tank trucks, and had not been affected directly by the oil confiscation law. The court ruled, consequently, that there would be no basis for a suit unless the state seized or attempted to confiscate complainants' oil. It held, moreover, that in such event, the complainants would then have adequate remedy at law in the state courts.

In the other phase of the litigation, involving validity of the railroad commission's proration program in East Texas, the court indicated it had found that the commission's orders were valid.

The plaintiffs attacked the oil confiscation law on the ground it was retroactive and would subject oil produced illegally prior to its effectiveness, May 11, to confiscation and sale. Objection was offered also to the provision of the law authorizing officers to halt and search trucks suspected of hauling contraband oil. The state's attorneys contended that the law was valid because any oil illegally produced was contraband and a nuisance, and that plaintiffs had no grounds for objecting to the truck searching, as they did not operate trucks.

The attack of the complainants against the railroad commission's orders was based on contentions that the commission had not given proper notice of hearings and that it had not based orders on actual findings of fact. In the latter connection, it was contended the commission should be gauging East Texas wells individually, in determining potentials and allowables, instead of using the limited number of key wells for gauges. The state's attorneys contended that proper notice of hearings had been given by the railroad commission prior to issuance of orders, that well-gauging and other policies pursued were reasonable, that the commission's orders were valid, and that even if they were not, complainants were stopped from attacking them, having left themselves no right to enter a court of equity, by their admitted failure to observe statutes and commission orders that had been in effect and accepted as valid for several years.

These cases were instituted recently by the East Texas refiners, including W. E. Templeman, Gus Pierce, W. D. Lacy, and others.

Oil Investigation

CONTEMPLATED BY NRA HEADS AS BASIS FOR MORE LEGISLATION

WASHINGTON, D. C.

AN exhaustive investigation of 14 of the country's major industries, including petroleum, on the basis of which recommendations would be made to Congress next year for legislation providing government control of at least interstate operations, is under consideration by officials of the National Recovery Administration.

Fearing that premature disclosure of their plans might lead to radical changes in methods in the industries to be investigated, which would defeat the purpose of bringing out the evil features of the present competitive situation, officials of the NRA have been reluctant to discuss the proposal, which they declare is still only in a tentative stage.

The industries to be studied by the NRA are not necessarily the largest in the country but, rather, those in which it is believed there can be shown evils in competition or in the conditions under which employes labor. In addition to oil, it is believed the study would cover steel, cotton textiles, boots and shoes, motion pictures, automobiles, lumber and coal, among others.

The investigations would go back to the very inception of the businesses in this country, and would go deeply into the corporate structure and financing of the several industries, as well as into production operations, methods of competition and the condition of labor.

On the basis of the information developed, which would show, among other things, the conditions in each of the selected industries prior to the adoption of their codes, the improvements resulting from observance of the codes, and the retrogression following the invalidation of the code-making provisions of the recovery act, it is proposed to frame recommendations for legislation which would restore to the government a measure of the control it exercised prior to the Supreme Court decision in the Schechter case.

The proposed legislation would be based either on the interstate commerce clause of the Constitution or on the government's taxing powers under the same document. It would, of course, apply only to interstate operations, but NRA officials interested in the project believe that in many industries interstate and intrastate activities are so inextricably mixed, at least in the case of the larger concerns, that a substantial proportion of companies would be brought under control.

Tentative suggestions for this type of regulation already have been made in Congress in the shape of bills requiring the registration of all concerns using the mails or other media of interstate communication or transportation.

NRA officials are firmly convinced that control of industry can be exercised only by legislation. Little or no confidence is placed in the new provisions of the recovery act authorizing voluntary codes, it being pointed out that industries making such agreements are to be required to accept the collective bargaining provisions of the law, provide maximum hours and minimum wages and outlaw child labor, while in return being permitted only to prohibit such unfair trade practices as are already outlawed by existing statutes.

It is understood that oil is under consideration as one of the industries to be investigated in the belief that no specific oil legislation will be enacted by Congress. At the same time, it is said, investigation of the industry may develop facts on which Congress may deem it wise to act.

CALIFORNIA OUTPUT

For July limited to June figure due to past excess

LOS ANGELES.

PRODUCERS of oil in California have been notified that the state quota will be only 512,700 barrels a day during July, same as the allotment set for June, and at the same time producers are notified that they are at fault, due to the fact they refused to adhere to their allotment in June. Had they done so, their July allotment would have been greater.

J. R. Pemberton, oil umpire for California, in his letter announcing the July allocation schedule, informs the producers that if they continue to overproduce, they must suffer the consequences. The producer is told their will be no crude price cut if all them will curtail as provided by the schedule announced. The action must be voluntary as there is no state law to force compliance.

Rumors are current that legal action will be taken against certain producers at Playa del Rey charging waste of gas, which is covered by a state law, but so far no action of this character has been taken.

In his letter to California producers Umpire Pemberton stated:

"All advances for new wells made since the first of June and all excess production made during June, prevent the allocation of more than the 512,700 barrels daily for July. Had there been no excess production during June, a larger quota could have been allocated. This statement can be worded another way by saying that if a number of producers overproduced, the remaining producers must underproduce in order to balance that overproduction. The quota of the state will be raised as soon as no excess is created .

"There is a guaranteed outlet for every barrel of curtailed oil in the State of California at the market price. No producer need sell a drop of oil at less than the market price. The results of the intensive drive, which was made to get the production of the state down to the allotment, and which was started following the announcement from purchasing companies on June 19, must continue until all bad spots are dried up. If the first two weeks of July duplicate the first two weeks of June, all this work will have to be done again."

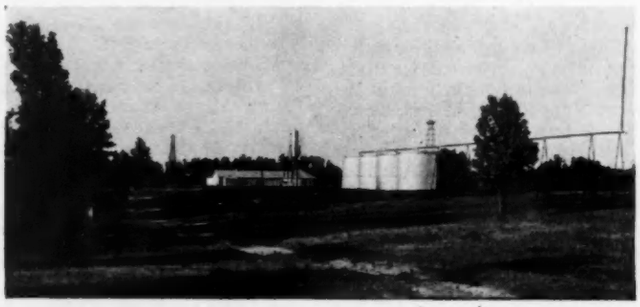
Proration Meeting

At a called meeting of the Southern California Oil Producers Association held at Long Beach June 28, and attended by about 60 Long Beach producers, announcement was made that splendid progress had been made in bringing about curtailment on the part of practically every producer approached. Several committees had been calling on individual producers for more than a week, and only in a few instances were the committeemen faced by absolute refusal.

The opinion was freely expressed that within a week the production allotment would be met at Long Beach. Names were given of several individuals and concerns who had cut back their wells where their production had

NEXT WEEK

East Texas Pumping » Progress



The technical section of the July 15th issue of THE OIL WEEKLY will be devoted to articles written by prominent engineers on pumping and lifting considerations in the East Texas field.

The articles deal primarily with East Texas but will be of real interest to engineers and production men everywhere. The wide range of application of lifting equipment and methods in East Texas places the field in the position of a huge laboratory for the consideration of lifting problems. Developments from experiments there will be of value in the solution of production problems in other areas.

Among the subjects to be covered in this Special East Texas Pumping Progress Number will be: Bottom-Hole Pressures and Their Influence on Artificial Producing Methods; Gas-Lift Methods Employed and Probable Future Applications; Present Pumping Equipment and Practices and Factors Governing Future Selections; and Pumping Equipment Foundation Considerations.

These and other articles will form a worthwhile symposium on present day production practices in East Texas and will make the July 15 issue of value to every oil man.

ranged from 500 to 2000 barrels each over allotment.

Various producers present were assigned the duty of calling on certain producers who were still overproducing. The movement started at Long Beach and is spreading to Huntington Beach and Santa Fe Springs, with hopes that the Los Angeles Basin will be within line early in July.

The San Joaquin Valley fields usually are more easily controlled, except Mountain View, where two or three operators refuse to play the game.

Since the independent producers have taken matters into their own hands, there is a very good chance that California production in July will be much nearer allotment than was the case in June.

Price Cut Local

SOUTH TEXAS FIVE-CENT HEAVY OIL CUT DUE OUTPUT SITUATION

SAN ANTONIO.

CURTAILMENT of production, rather than drilling, is being resorted to in an effort to prevent further reductions in the price of Mirando type crude. South Texas fields producing this type of oil were affected by cuts of five cents per barrel July 1, 2 and 3, bringing the posted price of 75 and 80 cents, according to location.

An onrush of drilling, new field discoveries and seasonal decline in demand for low gravity oil accounted for a flooding of the market with this crude. Reductions were made to readjust the situation. The high gravity market was not affected by these cuts, hence there is little or no uneasiness concerning the possible weakening of the general price structure. The reduction is a local situation, rather than being of major importance.

On July 3, the Texas Railroad Commission entered the picture and cut approximately 6000 barrels daily from the allowable in South Texas fields, the order being retroactive to July 1. The bulk of the reduction was in low gravity fields. New allowables are as follows: North Government Wells, 10,048 barrels; South Government Wells, 5213 barrels; Loma Novio, 916 barrels; Sarnosa, 856 barrels; Saxet, 1314 barrels; New Saxet, 1133 barrels (both Saxet fields are same, but prorated in districts); Samfordyce, 2793; East Cole, 473 barrels; West Cole, 607 barrels; Greta, shallow sands, 10,217 barrels. The above fields, under new schedules, have an output of 30,777 barrels. Approximately 10,000 barrels per day additional is provided through stripper fields and other areas of the Mirando-Coast trend which retain their July 1 allowable.

Commissioner's Statement

In a prepared statement issued by Commission Chairman Ernest Thompson, he pointed out that:

"The commission is reducing the allowable production of Mirando Crude because we have found that there is not sufficient market demand during the summer months to use up current production of this class of crude, and the commission is not willing to allow this oil to waste in above-ground storage.

"The nominations for purchase of Mirando crude for July were 28,554 barrels per day, and our present order issued on July 2 allows something over 33,000 barrels per day. This is a reduction of 6000 barrels per day in the production of this crude."

This is the first instance where the commission has cut allowables to support a weak market.

Mirando type crude ranges from 19 to 24 gravity. It contains an excellent lubricating oil base and high in anti-knock qualities. The gasoline content is rather low, recovery being available only through cracking. As a result, it is used largely for fuel oil.

Pipe line outlets for this crude are to tidewater at Corpus Christi, Ingleside, Port Aransas, and Harbor Island. One trunk line, that of Magnolia Pipe Line Company, carries crude across the entire Gulf Coast to its refinery. Companies have several hundred thousand barrels of this type crude in storage at deep water loading facilities, and up to the time of the reduction in allowable, were building up their stocks rather than decreasing them.

Larger Market Expected

The ultimate outcome of the situation is expected to be in the building of a new and larger market for this oil. Samfordyce, Hidalgo County, is to get a pipe line outlet to Port Isabel deep water port, contracts already having been let. G. L. Rowsey, president of Taylor Refining Company, announced definite plans for the construction of a 5000-barrel cracking plant at Port Isabel, work on which is to start in the near future. Several other refinery projects are projected or are under way in the Rio Grande Valley, giving outlet for this comparatively new producing district. Samfordyce has been a worry on the oil market ever since its discovery, despite the fact that its output is limited to several thousand barrels per day. Prices in the field range from 60 to 75 cents with the trend being to stabilize at the latter level.

Pipe lines out of the general Mirando district are crowded by production from these fields. Recent new discoveries add to the need for both outlet and market. Loma Novio, Loma Alto, Seven Sisters, Hoffman and others are producing areas discovered in the last several months, and which are producing low gravity Mirando crude from 2000 to 2800 feet.

The prices of crude in South Texas low gravity fields late in the week stood as follows: Mirando district, including all fields from Jacob on the north through Zapata County, 75 cents per barrel; Rio Grande Valley, including lower Starr County and Samfordyce, 75 cents per barrel, some buying as low as 60 cents; Coastal trend, including Saxet to Coleto Creek, low gravity, 80 cents. The original cut was made by Humble Oil & Refining Company, but followed by all companies.

SPACING REGULATIONS

First major issue before New Mexico commission

SANTA FE, NEW MEXICO.

LACK of conformity of opinion among oil producers in Lea County as to the proper spacing of wells in the various fields scattered throughout the county offers the first major issue to come before the state's newly created Oil Conservation Commission. The body, consisting of Governor Clyde Tingley; Dr. E. H. Wells, state geologist; and Frank Vesely, state land commissioner, conducted its first formal hearing with nearly all operators represented on June 25-29, to draft a complete set of oil and gas conservation regulations. This commission was created by an act of the legislature on February 2, 1935, and meetings will be held monthly hereafter.

With few exceptions, Lea County operators have carried out a center of 40-acre unit spacing, or 660 feet from property lines since the passing of the early stages of development in the Hobbs and Jal areas. Testimony developed at the commission's introductory hearing revealed that a number of major companies, along with independents, have a preference for closer spacing of wells, and in a few instances expert witnesses were placed on the stand to strengthen the position of this minority group.

The commission took under advisement the tentative draft of regulations calling for 660-foot spacing to apply generally, with provisions made for special hearings to be conducted on individual fields. Indications are that the wishes of the majority of the operators in each area will be largely considered by the commission in drafting spacing regulations. Production penalties are slated to be imposed upon well owners drilling on tracts smaller than the prescribed spacing distance assigned to individual fields, or for exceptions taken because of dry hole hazards.

Permission of the commission must be obtained to treat a well with acid, or to shoot with nitroglycerine, or other explosives. Rule 4 requires that deviation tests be made on drilling tests at intervals not to exceed 500 feet.

Other Rules Proposed

Other rules to be imposed by the commission cover the usual detailed monthly reports on activity, and results of workover jobs. The question of casing and cementing of pipe will be taken up later by individual fields, and the operators are anticipating restrictions being imposed against casing practices followed by some of the producers.

Well spacing regulations to be applied throughout the state, as agreed to by the majority of the operators attending the long hearing, follows:

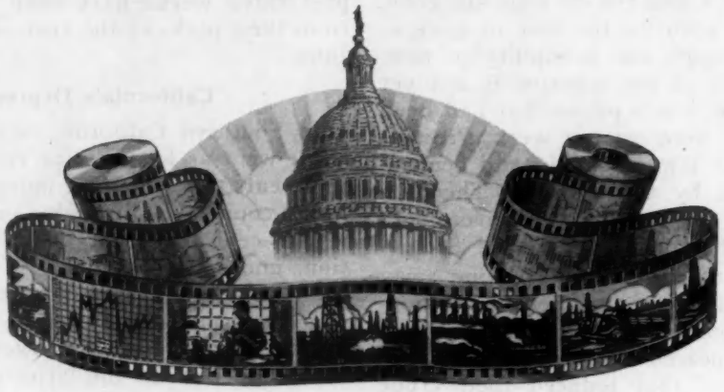
No well for oil and/or gas shall be drilled less than 660 feet from any lease or property line or less than 1320 feet from any other such well.

The commission shall grant exceptions to this rule, when such exception will create neither waste nor hazards conducive to waste and when the existence of one of the following facts is established:

1. When a well drilled at a location in conformity with this rule would be outside the

[*Continued on page 49*]

The Changing Panorama



THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by JACK LOGAN, Associate Editor

SCENES in the changing panorama that lately have stood out conspicuously have included: some weakness of the markets, litigation in oil control matters, and developments at Washington.

The crude price structure has not been appreciably affected, but localized, minor cuts of the past two weeks have represented disturbing ripples on a surface that was fairly glistening a few weeks ago. Product prices, wholesale and retail, have been mostly unchanged the past three weeks.

Crude production control was somewhat strengthened last week, when a three-judge federal court at Houston and a state court of appeals at El Paso both upheld constitutionality of the Texas Railroad Commission's proration program in East Texas. There is a possibility the decision may lead to some reduction in East Texas hot oil output, which lately has been increasing gradually, although not greatly. On the other hand, there is skepticism in some quarters. No matter how valid the commission's orders, it is pointed out, there must be constant vigilance and earnest endeavors among the enforcement authorities, if East Texas hot oil is to be kept under reasonably successful control.

Trade Commission to Sponsor Codes

Among the more important developments at Washington lately, from the oil industry's viewpoint, has been the taking of definite action by the government regarding voluntary industrial codes. Following several weeks of uncertainty and indecision, the Administration has decided to restrict activities of the new NRA to compiling statistics on effects of NRA principles on industry. By the same decision, the Federal Trade Commission has been authorized to assume leadership in sponsoring voluntary trade practice codes or agreements. Oil industry leaders some weeks ago began negotiating with the trade board, aiming at renovation of the old marketing code that the industry applied prior to NRA days, under supervision of that federal commission.

The old fair-competition oil marketing code, rejuvenated, might contribute something toward bolstering the industry's markets, which lately have shown some symptoms of sickness, as above indicated. In California, particularly, some such code might prove definitely beneficial. For in that state crude production control has reverted to a voluntary and not entirely successful basis, following voiding of the old NIRA and oil code; and refined oil prices wholesale and retail, consequently have been depressed.

New Marketing Code Proposed

The decision to make the Federal Trade Commission supervisor over new codes permits more aggressive pushing of the renovation of the old voluntary oil marketing code, that was in effect in 1931. In a four-day conference at Washington at the close of June, representatives of large and small oil marketing companies drew up a new-code proposal. Another meeting was scheduled last week in New York for putting the preliminary draft into final form. The proposed code was to be submitted then to the industry's leaders for approval, later to the industry at large, and finally to the Federal Trade Commission, for approval as a revision of the 1931 marketing code. The new code would retain most of the fair-competition principles of the NRA oil code, especially prohibitions against giving away equipment, extending excessive long-term credit, and selling below cost.

Crude Price Changing Revived

Regarding recent crude price reductions, the general implications appear much more important than the actual market effects involved. While the cuts do reflect recent weakening of the market in spots, they also reflect something of vastly greater importance. They reflect a turning of the oil industry out of the new path of artificial price fixing and back into the long-beaten trail of "natural" price changing.

For two years, under NRA, there was scarcely

a change in crude prices. Conditions did not always justify those stabilized prices, but the postings were left unaltered, through fear of political complications. Now the old NRA and the oil code are gone, and, apparently, so is some of the fear of government domination—although the possibility of new strict federal regulation of the industry is not yet eliminated. At any rate, crude prices that had been effective many months were cut last week. Presumably, the old, economic law of supply and demand was thereby reinstated by the industry. The artificial price bolstering, inspired by the government has been definitely, although gently, pushed aside.

From an economic standpoint this breaking away from artificial price bolstering appeared unquestionably a salutary development. From a political standpoint, however, it appeared somewhat hazardous. Some of the companies that reduced their crude postings last week are among the many opponents of the revised Thomas bill for strict federal control of the industry. Yet they ran the risk that their price cuts, presumably reflecting overproduction, might be cited as evidence of the need for the contemplated legislation.

Cuts in Texas and Pennsylvania

The crude price reduction of the past two weeks have included a cut of 15 cents a barrel for Pennsylvania crude, and a five-cent cut for several fields of the Refugio-Mirando section of South Texas. Although the Pennsylvania reduction was the greater, it merely offset an advance made earlier in the year, and appeared to be of probably less significance than the five-cent cut in the Texas fields.

The companies that made the latter reductions offered no explanations for their action. It was indicated, unofficially, that the cuts were necessary because intensive drilling and flush production were taxing the existing facilities for storing and marketing the district's output. That explanation was supported when the Texas Railroad Commission July 3 answered the price reductions with downward-revised allowables for 10 South Texas fields, retroactive to July 1. The allowables as fixed originally substantially exceeded the amounts purchasers had indicated willingness to buy.

Crude Markets Generally Firm

Whatever may be the broader significance, if any, of the Texas and Pennsylvania crude price changes the immediate significance, from a market standpoint, appears to be very small. Certainly, the general Mid-Continent crude price structure does not appear to be in any imminent danger of serious weakening, although the market admittedly is not quite as strong as it was during May and June. For the crude prices still are, nevertheless, suported by comparatively favorable refined product prices, both wholesale and retail.

Kerosene prices have been declining during the past several weeks, due to the seasonal influence. But gasoline prices east of California are at or only slightly under their peaks of the year, wholesale and retail, being about back up to levels of mid-September, 1933, and virtually up to the previous peak of late 1930.

At Mid-Continent refineries, tank car prices on gasolines of the higher octane ratings are at or within one-eighth cent per gallon of the peaks of the year, while third-grade gasoline prices for the past three weeks have been down an eighth cent from their peaks of the year, established in May and June.

California's Depressed Prices

In Southern California retail gasoline prices last week went as low as nine cents a gallon, including four cents taxes, at some independent stations; while major companies, through a one-cent cut, established a 12½-cent minimum price. Excess crude production, under the California voluntary proration program, has aggravated the gasoline market depression that started about three months ago when the Pacific Coast gasoline marketing agreement ceased to be effective. In the latter part of June, however, the voluntary proration tightened up materially, and so far, the crude prices have been maintained.

State Proration of Texas Upheld

The three-judge federal court hearing in Houston last week involved a group of cases, in which the plaintiffs, various East Texas refiners, sought to enjoin the Texas Railroad Commission from enforcing its proration program against them. Following a 1½ day hearing, the court ruled that the commission was staying within constitutional limitations in the methods and policies pursued in regulating the operations of the complainants. In the El Paso cases, the Texas appeals court similarly upheld the railroad commission and the Texas oil conservation laws, sustaining judgments in favor of the state in penalties for alleged production of hot oil.

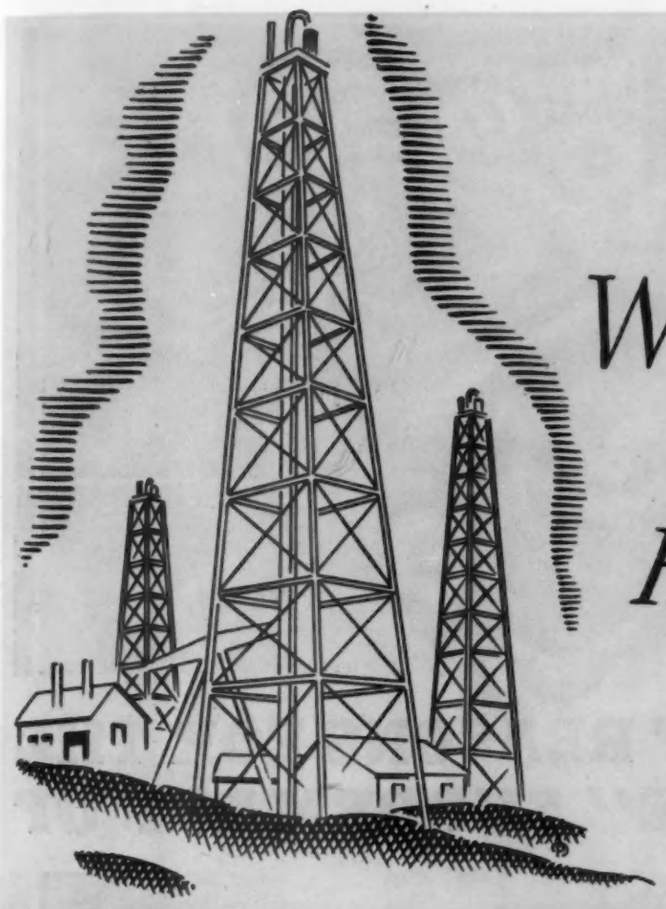
No Ruling on Oil Confiscation Law

It had been expected that the Houston hearing would have unusual significance, because it involved complaints against the new and untried Texas law authorizing the state to regulate truck shipments and to confiscate and sell illegally produced oil. The court declined, however, to pass on the validity of that law, since none of the complainants had been affected directly by the statute.

Profits Despite Seizures

Under the confiscation law, the state can seize and sell, to the highest bidder, oil produced illegally. The law was originally hailed as a boon to proration enforcement. But in practice it is proving acceptable, if not desirable, to anti-prorationists, to such extent that the law is not being strenuously attacked.

East Texas refiners whose oil has been confiscated are buying back the seized oil at 20 to 40 percent of market value, at the auctions. Their low bids are the highest offered, usually, as they threaten other would-be bidders with law suits, to be brought if the confiscation law proves invalid. While money must be raised for the auction-buying, that cost is immediately compensated by increased market value of the oil. Before confiscation, hot oil and products must be offered at sacrifice prices, because of being ineligible for tenders and rail shipment. Through the auction-block redemption, the oils regain full legal standing, and then bring the regular prices prevailing on legal, tenderable materials.



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MEN IN THE INDUSTRY'S NEWS

E. V. **WHITWELL** has been made manager of a newly created exploration department of Standard Oil Company of Louisiana, according to an announcement made last week. As soon as Mr. Whitwell can organize a force, he will begin exploration work, the official announcement said, "using the most modern facilities and methods." The producing department of Standard Oil Company of Louisiana has been more or less inactive due to an oversupply of crude, but the new department under Mr. Whitewell was established for the purpose of making surveys looking to discovery of new fields in Louisiana and Arkansas. Mr. Whitwell comes to his new position from Carter Oil Company. He is a well known geologist and will make headquarters in the Standard Pipe Line Company building at Shreveport.

F. C. **WOOD**, consulting geologist and mining engineer of Denver, Colorado, has been appointed assistant to Robert H. Dott, newly appointed director of the Oklahoma Geological Survey. Wood at one time was a geologist for the old Marland Oil Company. Dott and his family moved to Norman to take up the survey work during the past week.

JOHN S. FREEMAN, assistant to H. M. Stalcup, vice president in charge of production for Skelly Oil Company, has returned to Tulsa after concluding a tour of Texas oil fields.

A. G. **POST,** superintendent of production in the Texas Panhandle for Magnolia Petroleum Company, with headquarters at Pampa, has been transferred to Iatan, Texas, and succeeded by A. E. Chester, who was formerly located at Iatan.

JOE C. MAXWELL, Fort Worth operator, departed last week accompanied by his wife for New York City to board ship for a pleasure trip to South America.

EUGENE MOREHEAD, scout for Tidewater Oil Company in the Shreveport district, and for several years employed in that capacity by Simms Oil Company in the Shreveport division, has been transferred to the Lake Charles, Louisiana, district by Tidewater.

R. J. **STEEL** now is district geologist for Indian Territory Illuminating Oil Company in its West Texas-New Mexico district, having been transferred from the Kansas district to headquarters at Midland, Texas. Prior to 1933 he was stationed at Shawnee, Oklahoma.

L. E. **FITZJARROLD,** superintendent of partnerships for Phillips Petroleum Company, Bartlesville, Oklahoma, spent several days in Wichita, Kansas, during the past week.

G. E. **EVERETT,** manager of the Low Cost Roads Association, has returned to headquarters at Kansas City, Mo., after completing an inspection tour of Oklahoma and Kansas refineries.

THOMAS H. ALLAN ACCEPTS POSITION AS MANAGER OF KANSAS OFFICE FOR TWIN DRILLING COMPANY

HAS BEEN GEOLOGIST PAST 14 YEARS FOR STANDARD OF INDIANA SUBSIDIARIES

EFFECTIVE July 1, Thomas H. Allan, for the past 14 years a geologist for Standard Oil Company of Indiana subsidiaries, became manager of the Wichita, Kansas, office of Twin Drilling Company. Mr. Allan, a graduate of the Colorado School of Mines, was employed by Midwest Refining Company in 1922. In 1925 he was transferred to the western Kansas headquarters at Russell and acted as district geologist for western Kansas. In 1932 he was transferred to Wichita to become Kansas division geologist for Stanolind Oil & Gas Company and in 1934 was transferred to Tulsa as geologist of the central division of Kansas and Oklahoma. Twin Drilling Company, owned and operated by C. M. "Pat" Ashby of Hutchinson, Kansas, and H. E. "Johnnie" Holm of Bartlesville, Oklahoma, has its main office in the Union National Bank Building in the latter city. The company owns and operates rotary and cable tools and has drilled approximately 55 miles of hole in Kansas and Oklahoma. It has drilled wildcat tests in 14 western Kansas counties and has several producing properties.

PAUL POTTER, assistant chief scout in the Oklahoma, Kansas, Panhandle division of Shell Petroleum Corporation, announced the addition of a new scout on Tuesday, July 2, when George Edward Potter, a seven pounder arrived at a Tulsa hospital.

E. G. **"TY" DAHLGREN,** has been reappointed to the post of chief clerk of the Oil and Gas Conservation department of the Oklahoma Corporation Commission. Dahlgren joined the proration forces when the Oklahoma City pool was first placed under proration, and subsequently served under Cicero I. Murray during the military rule, Ray M. Collins and the proration committee of three. When W. J. Armstrong was made state proration umpire, Dahlgren became his chief clerk, a position he relinquished on January 1, 1935, to make way for Tom Collins. Collins is on vacation and it is understood that he will no longer be with the department. Coincident with announcement of Dahlgren's reappointment came the announcement of the resignation of Clyde Becker, deputy conservation officer who has been on leave of absence since November, 1934.

JERRY L. DONOVAN, Stanolind Pipe Line Company, is president of the newly formed Stanolind Employees Association.

J. M. **WILSON,** formerly chief geologist for Simms Oil Company, Dallas, is moving to San Antonio, Texas, and will be chief geologist for the newly organized Texla Oil Company. Lewis Kelsey, geologist for the same company, also will be connected with the same company.

J. B. **LEONARD,** scout for Tide Water Oil Company, Midland, Texas, has recovered from a recent accident.

A. I. **LEVORSEN,** independent operator of Tulsa, and his family are spending the summer in Minnesota. Mr. Levorsen is president of the American Petroleum Geologist Association, and until recently was chief geologist for Tide Water Oil Company in Tulsa.

PAUL STEED, formerly land man for Simms Oil Company, Dallas, has joined Tide Water Oil Company's land department in Houston.

D. T. **FORD,** land man for Simms Oil Company, Dallas, has joined the land department of Tide Water Oil Company, and will be located in Houston.

LUTHER H. WHITE, pioneer Mid-Continent geologist and member of J. A. Hull Company, has been appointed to the Tulsa County excise board. White, who wrote several of the early outstand-

ing geological reports on Oklahoma, served on the Tulsa School Board and was its president three years.

W. B. ROYER, land man for Tide Water Oil Company, Houston, is in Dallas on a prolonged business trip.

FERO WILLIAMS, George F. Getty, Inc., has been elected president of the Petroleum Accountants Society, Los Angeles. Other officers elected for the fiscal year 1935-1936 were: R. F.Hornidge, Union Oil Company of California, first vice president; R. L. Minckler, General Petroleum Corporation, second vice president; and D. S. Kilgour, California Oil & Gas Association, secretary-treasurer.

F. W. SHIREY, Oil Well Supply Company, Dallas, accompanied by his wife and two children, visited B. L. Shannon of Rio Bravo Oil Company in Houston recently. While spending his vacation in Houston, Mr. Shirey enjoyed the fishing of the Gulf Coast.

THOMPSON ELECTED

President Pennsylvania Oil Association again

OIL CITY, PA.

T. P. THOMPSON, JR., Bradford oil producer and Mayor of that city, has been elected to serve as president of the Pennsylvania Grade Crude Oil Association for another year. Mr. Thompson completed his first year as president at the association's annual meeting in State College recently. A board of 28 directors was chosen at the State College sessions.

Other officers elected were John A. Beck, Pennsylvania Refining Company, Butler, vice president; S. Messer, Quaker State Oil Refining Corporation, Oil City, treasurer; N. H. Weber, Pure Oil Company, Chicago, recording secretary; Fayette B. Dow, Washington, D. C., vice president and general counsel; J. E. Moorhead, Oil City, executive secretary; and Hamilton W. Smith, Oil City, assistant secretary.

In addition to Messrs. Thompson, Beck, Messer, Weber and Dow, the following will serve as directors: H. D. Atha, Logan, Ohio; E. C. Breene, Oil City; W. J. Brundred, Brundred Oil Corporation, Oil City; W. F. Clinger, Clinger Gas & Oil Company, Tidioute; E. M. Craig, Freedom Oil Works Company, Freedom; Carl Daugherty, Butler; J. D. Dinsmoor, Dinsmoore and Company, St. Marys, West Va.; Forest D. Dorn, Forest Oil Corporation, Bradford; E. C. Emery, Bradford; J. P. Flynn, Reno Oil Corporation, Sistersville, W. Va.; Charles Huff, Preston Oil Company, Columbus, Ohio; Otto Koch, Kendall Refining Company, Bradford; Harry R. Lewis, Conewango Refining Company, Warren; H. A. Logan, United Refining Company, Warren; David B. McCalmont, Franklin; John McCoy, Columbus, Ohio; Parker Melvin, Towne-Melvin Oil Company, Bradford; F. E. Richart, Wellsville, N. Y.; Noel Robinson, Tide Water Oil Company, New York City; C. L. Suhr, The Pennzoil Company, Oil City; D. J. Sweeney, LeSeur Oil Corporation, Buffalo, N. Y.; S. M. Vockel, Waverly Oil Works Company, Pittsburgh; Paul Zook, Sloan and Zook Refineries, Warren.

S. F. SHAW now is consulting engineer for Watchorn Oil & Gas Company, which company has oil properties in the Oklahoma City field.

E. W. (ERNIE) WILSON, formerly head land man, Simms Oil Company, Dallas, is now connected with Maracaibo Oil Company at Dallas.

H. L. WIRICK, independent operator, of Okmulgee, Oklahoma, and wife are visiting in California.

R. K. DAVIES, a member of the board of directors of the Standard Oil Company of California, was July 1 elected a vice-president. Mr. Davies joined the sales department of the company in 1912 as a clerk, at Fresno. In 1917 he was transferred to the sales management in

R. K. DAVIES

the home office, as a special assistant engaged in a variety of activities. He became secretary of the sales committee in 1928. In December, 1930, Mr. Davies was elected a director. He is also executive vice-president of International Bitumen Emulsions Corporation and of Standard Stations, Inc.

J. F. (COYOTE) HORNBECK, scout for Skelly Oil Company, Houston, is vacationing in Colorado with his family.

A. C. EASTERWOOD, scout for Tide Water Oil Company, Lake Charles, Louisiana, has recovered from a recent illness, and was a visitor in Houston the past week.

THORNTON DAVIS, formerly district geologist for Simms Oil Company, has entered the consulting business in San Antonio, Texas.

FLOYD MILLER, geologist for Bay Oil Corporation, formerly of Tulsa, now is located in Houston with headquarters in the Esperson Building.

WALTER GRAY, Tulsa district manager for Jarecki Manufacturing Company. was a business visitor in Oklahoma City during the early part of the week.

ARTHUR KNIGHT, member of the sales force of Oil Well Supply Company, has been transferred from Shreveport, La., to Tulsa.

R. D. SHAW of Tulsa, Oklahoma, sales manager for Dowell, Incorporated, visited the company's North Louisiana district office at Shreveport, last week.

D. A. MAC DONALD, Vancouver, British Columbia, is supervising drilling operations for Comrey Oil Company. He is headquartering in Comrey, Alberta, at the present.

J. H. McLARIN, scout and land man for Phillips Oil Company, Houston, now is located in San Antonio, Texas.

DIED:

EDWIN J. DRAKE, member of the firm of Martin and Drake, independent operators, and associated with Gray Tool Company, passed away in a Houston hospital July 5. He was born in Parkersburg, West Virginia, and at one time was connected with Oil Well Supply Company, National Supply Company and The Continental Supply Company. He is survived by his wife; a daughter, Mrs. Gordon Richman, and granddaughter; three sisters and three brothers, which are Walter A. Drake of Oklahoma City, Frank of Pittsburgh, Pa., and T. H. of Fort Worth. Funeral services were held on July 7.

MEIER REAPPOINTED

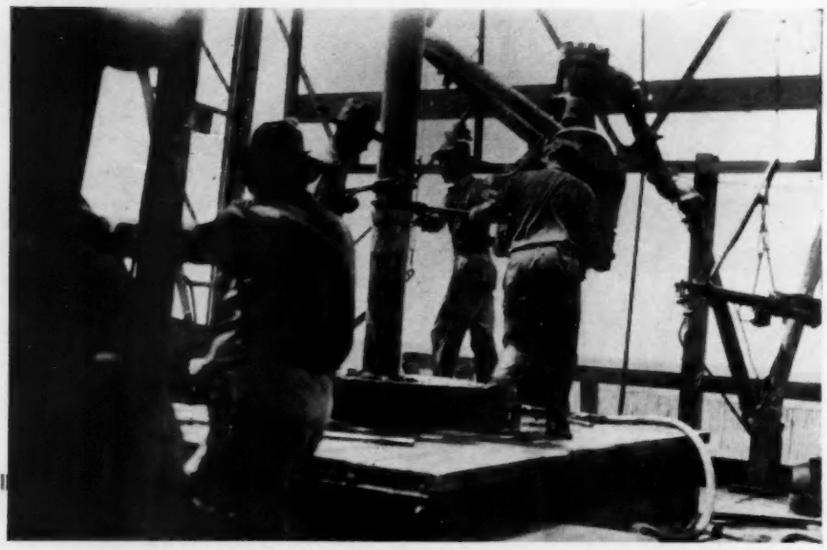
Chairman API Central Committee on Districts

W. H. Meier, of The Atlantic Oil Producing Company, Dallas, Texas, has been reappointed chairman of the American Petroleum Institute's Division of Production central committee on district activities. The appointment was made by George A. Hill, Jr., of Houston, Texas, Institute vice president for production and chairman of the division of production general committee.

Bruce Barkis, of Rio Grande Oil Company, Los Angeles, California, is vice chairman of the central committee for 1935, and Carl A. Young, secretary of the Division of Production, again is committee secretary.

The following have been appointed members of the committee:

H. H. Phillips, T. W. Phillips Oil & Gas Company, Butler, Pa.; J. C. Johnston, Continental Oil Company, Borger, Texas; C. E. Sutton, The Pure Oil Company, Houston, Texas; John R. Suman and W. R. Trelford, Humble Oil & Refining Company, Houston; C. R. Weidner, Sinclair Prairie Pipe Line Company, Independence, Kans.; M. E. Brock, Gulf Production Company, Houston; R. E. Donovan, Standard Oil Company of California, San Francisco, Calif.; G. F. Prussing, Union Oil Company of California, Los Angeles, Calif; F. E. Wood, Standard Oil Company (Indiana), Chicago, Ill.; and G. P. Bunn, Phillips Petroleum Company, Bartlesville, Okla.



The special combination drill pipe-casing string is shown here while being withdrawn from the hole.

Heaving Shale Attempt

OF CONTINENTAL OIL COMPANY USING INTERESTING METHODS AND EQUIPMENT

By EARL S. POST, Staff Writer

AN attempt is being made to drill through heaving shale by the use of powerful drilling equipment and a special type of combination casing and drill stem, and a collapsible drilling bit. The work has not progressed sufficiently far to indicate the outcome of this experiment, but elaborate plans are being made for the continuance of the work if this method does overcome the difficult situation.

Continental Oil Company's Moody 2, nine miles southeast of Seadrift in Calhoun County, Texas, is at a depth of 6522 feet, where it is shut down to make several mechanical changes before continuing drilling. At this time, it is well into heaving shale and is attracting the attention of scientists and engineers who have been working with this important problem for the past several years.

Drilling Plan

The equipment above the ground offers nothing unusual in the way of engineering, except that it is one of the largest drilling outfits ever assembled on the Gulf Coast trend. It is so powered that it will give the maximum energy at required moments. The equipment in the hole, however, is the new advancement and the true experiment.

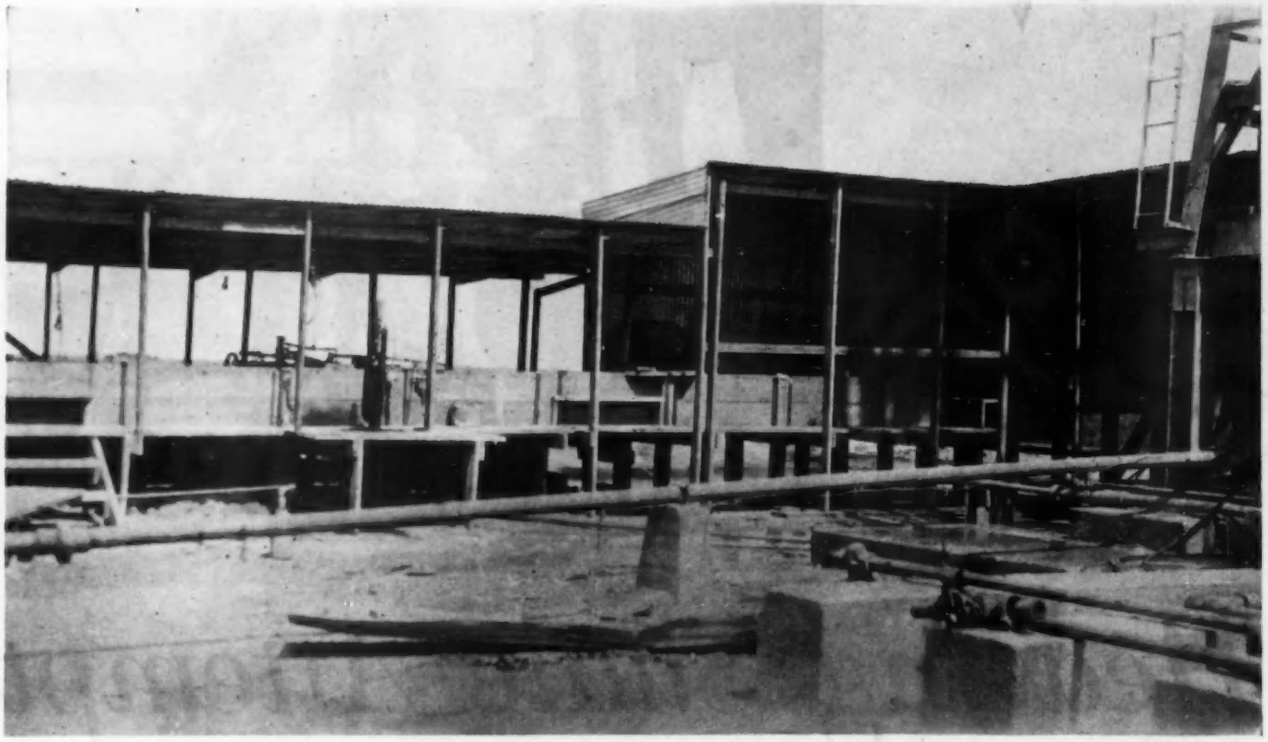
The hole was commenced with a 7⅝-inch drilling string, a 19¾-inch opening being bored. This continued to 1483 feet, where 16-inch casing was set. A 14¾-inch hole was carried from this depth to 6500 feet, six-inch drill stem being used. A string of 11¾-inch casing was set at 6504 feet.

Heaving shale was encountered at 6022 feet, but the hole was carried to 6500 feet with no change in equipment. The condition of the hole at this point was not causing any great difficulty, but it was decided to use the special string of casing-drill pipe to combat any trouble. The hole was carried to 6522 feet, where it was shut down and the special type pipe removed for some minor changes before proceeding.

The first string of drill pipe-casing to be run in the hole was 8⅝-inch diameter, inside measurements. It had an almost flush joint on the inside and only a small shoulder on the outside. The threads are factory machined on the pipe, and are of drill collar design. The drill stem is made of a special type material so that it will have the strength and endurance of drill pipe, yet have the weight and thin walls of casing.

There are 8000 feet of this combination pipe on location. The success of this experiment will undoubtedly have an important bearing on the future use of this type of material.

On the casing-drill pipe is connected a collapsible wire line bit, which can be withdrawn without removing the pipe from the hole. The intention is to drill as far as possible into the shale with this string of drill pipe. When it sticks in the shale, should this



Covering over the mud troughs prevents thinning in case of rain.

be the case, the bit will be recovered and the string of pipe cemented into the hole. A smaller string of casing will then be run, to be carried as far as it will go, the same process being repeated until the heaving shale is drilled through or the hole becomes too small to continue operations.

It is anticipated that the heaving shale will not exceed 1200 feet in thickness, which would mean a break in the formation considerably above 7500 feet. Should the shale be negotiated with one string of special type casing, it likely would be set just below the shale. The next string to be run into the hole would be six-inch special type pipe, to be followed by a string of 4½-inch casing. Should it require two strings of this pipe to drill through the shale, the hole will still be sufficiently large to be carried considerably deeper.

No announcement has been made of the proposed depth of the hole, but it is known that it will be carried a considerable distance below the shale bed if production is not found. The amount of money already involved in the hole and the sum yet to be expended suggests that it may be carried far below 10,000 feet.

Rig Set-Up

Special type of drill pipe and bit are not the only features of the method of combating this shale. The whole outfit is set up to assure continuous operation at all times, regardless of weather and ordinary break downs. It is the contention that allowing the drill stem to remain in the hole any length of time is almost certain to stick it beyond recovery. Also, when the drill stem is removed from the well, the hole begins to back up by the flow of this shale, causing considerable cleaning before getting on bottom.

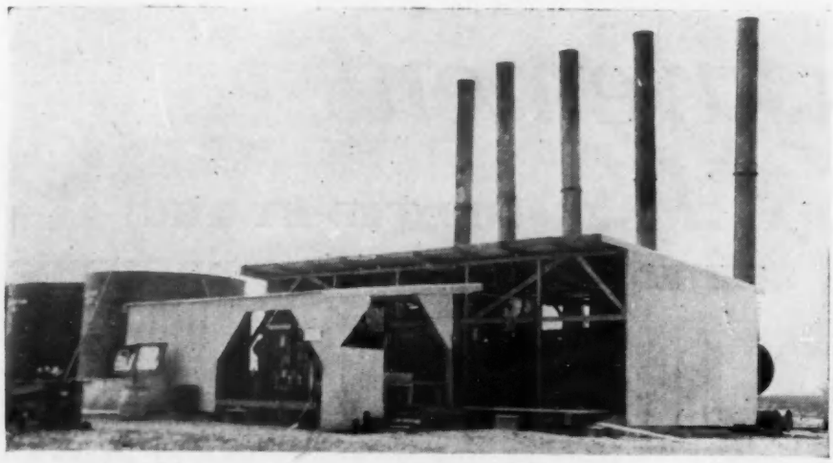
The well is located slightly more than one mile south of the Seadrift highway. In rainy weather, it is impossible to drive trucks from the highway to the location due to road conditions. To overcome this, a small oil storage tank has been constructed at the highway. Fuel oil is unloaded from the trucks and pumped through a pipe line to the location. There are 1500 barrels of storage for fuel at the location. This set up assures adequate supply of fuel oil at the location at all times.

Six water wells have been drilled. They supply water to 2000 barrels of steel storage above the ground, in addition to several thousand barrels of earthen storage at the drill site.

One tank, 1000 barrels capacity, is filled with ready mixed special mud to be used in case of emergency. This mud supply is in addition to the regular supply in the slush pits, ditches, etc. A special mixing pit and a large steam pump have been erected to condition mud for both storage and use in the drilling operations.

Mud is one of the important considerations in the drilling of the well. It is considered of vital importance to keep the mud in proper condition. A building has been constructed from the return pipe on the blowout preventer to the pumps and slush pit. Through this building is a trough for the running of the mud to the vibrating mud screens. The mud is constantly checked to keep it up to the standard desired. In case of rain, the covering over the mud troughs prevents thinning, etc.

The equipment used in drilling of this well includes five boilers, three of which have a capacity of 110 horsepower each, and two 125 horsepower. Three mud pumps are assembled to be used individually, or to be compounded in the event an enormous amount of pump pressure is needed at any one time. The largest pump is 15½ by 8½ by 20. A fourth



The boiler house includes covering for both the boilers and the steam pumps.

pump is in operation for mixing muds as already described.

The derrick has a 30-foot base and is 136 feet high, being mounted on a nine-foot steel substructure. The entire plant is mounted on large concrete block foundations. The engine is a 14 by 14. The draw works is an unusually large piece of equipment having a 9½-inch line shaft. A 1,000,000-pound capacity swivel is being used. The rotary table is a large hydraulic one built to withstand heavy shocks in the drilling operations.

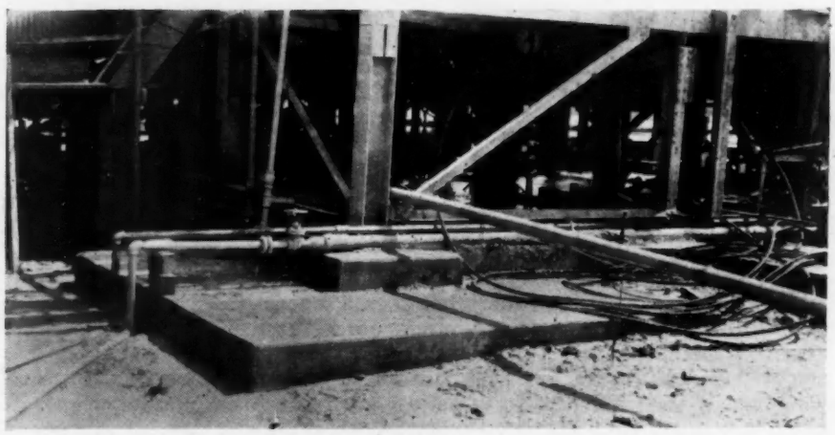
Second Attempt

This is the second heaving shale prospect drilled on this block by Continental Oil Company. The first, several hundred feet to the southwest, was abandoned late last year at 6890 feet after mechanical difficulties prevented further drilling. This well had an elaborate casing program. A string of 18⅝-inch pipe was set to 205 feet; 13⅜-inch casing to 1472 feet; and 9⅝-inch casing set at 5878 feet. The third string of pipe was set after the drill stem had stuck at this level and much difficulty was experienced in removing the stem from the hole. At 6625 feet, heaving shale became such a problem that the hole backed up approximately 300 feet and had to be redrilled. Upon getting on bottom, a string of 9⅝-inch pipe was run, being carried ahead to 6890 feet, the total depth. A string of five-inch flush joint pipe was then run, which parted and resulted in the final abandoning of the first project. Much lighter drilling equipment was used in drilling the first well than in the second.

The new attempt is well engineered, and is being closely watched by engineers from several concerns providing special equipment for this test. The well, in fact, is a proving ground for several pieces of material.

The contract for the well is held by Loffland Brothers, of Tulsa, Oklahoma, with Lee Brown representing the concern on location. J. G. Dyer, manager of production and drilling superintendent east of the Rocky Mountains for Continental Oil Company, is in charge of the operation. T. R. Batte, general superintendent, and R. G. Paxton, assistant superintendent for Continental Oil Company in the Gulf Coast, also are closely involved in the direction of the project, being on location the majority of the time.

Continental Oil Company has started another heaving shale project on the Gulf Coast, it being Feif 1, on the Citrus Grove prospect in Matagorda County. The well will be drilled to the heaving shale with present equipment if production is not found at a shallower depth. It then will be shut down to await the outcome of the Moody test experiment. If the work is successful on the Moody well, the Feif test will proceed in a similar manner. It has a similar set up to the Moody well, including oil unloading facilities at the passable highway several miles away from location.



The nine-foot steel substructure is mounted on large concrete foundations to provide ample support for the massive machinery.

Gas Measurement

AS IT IS INFLUENCED BY THE EFFECT OF BAROMETRIC PRESSURE

By E. E. STOVALL
Lone Star Gas Company
Dallas, Texas

THIS article, which discusses barometric pressure corrections for use in the measurement of gas, is the result of the finding of the "Committee for the Study of Practical Methods," and was delivered before the Southwestern Gas Measurement Short Course at the University of Oklahoma, Norman, Oklahoma.

IN the measurement of gas by an orifice meter it is necessary to know or to define the unit of measurement or just what a standard cubic foot of gas is. The definition of a cubic foot of natural gas as set out in the American Petroleum Institute's tentative Code No. 50 of November, 1934, is:

A standard cubic foot of gas requires the specification of the temperature and pressure conditions under which it is measured. In the measuring of flowing gas certain other definite specifications must also be clearly delineated. Since there is no universally accepted standard cubic foot of gas, the unit of measurement must be specified by contract, or by inference from general practice. This code prescribes no one fixed standard definition of a cubic foot of gas but does provide, in language suitable for incorporation in a business contract covering the sale and purchase of natural gas, a correct statement of the essential provisions necessary to such a definition. The essentials in the measurement of gas include the pressure and temperature bases, the flowing temperature, the specific gravity of the gas and the degree of accuracy required. The suggested language in which these essentials should be expressed, stated here in a manner suitable for incorporation in a gas contract, is as follows:

"It is agreed for the purpose of this contract that the unit of measurement of gas delivered and received hereunder shall be a cubic foot at an absolute pressure of —— pounds per square inch, and a temperature base of 60°F. It is agreed further that the quantities of gas shall be computed from the meter records in accordance with Boyle's Law, with an assumed and accepted flowing temperature of ——°F.—provided that either party may at his expense install and operate a recording thermometer of standard make and in this event proper correction of the monthly total of gas deliveries shall be made for the average flowing temperature as recorded; and for an average specific gravity obtained by tests of the gas made by the balance method."

The purpose of the Institute in adopting a gas measurement code was to simplify and, insofar as possible, standardize gas measurement practices. It was not its purpose to interfere in any way with existing business contracts, but rather to influence the making of new contracts in a manner clearly understood, contracts capable of being interpreted and executed by an operating staff, and also to form some basis for interpreting existing contracts in which pertinent data has been omitted.

In orifice meter measurement, two absolute pressures must be definitely established. The first is the absolute base pressure, to be used in establishing the unit of measurement, and the other is the absolute pressure of the gas at the point of measurement. The first is an arbitrary pressure, the second an actual one. The base pressure may or may not be selected with reference to the barometric pressure at the point of measurement. However, to obtain accurate volumes the average barometric pressure at the point of measurement must be known, in order to establish the absolute pressure of the flowing gas.

The unit of gas measurement is referred to an absolute pressure base, which is usually designated in pounds per square inch. This absolute pressure base is usually fixed as a certain number of ounces or pounds above an absolute pressure of 14.4 pounds. Until recent years it was a standard practice to consider the average barometric pressure as 14.4 pounds per square inch, which was due to the fact that this value was representative of the average barometric pressure of most of the gas fields in the United States. To this barometric pressure a pressure base usually expressed in ounces or pounds was added, to arrive at the absolute pressure base to be used in establishing the unit of measurement.

However, gas fields have been developed where the average barometric pressure varied both above and below 14.4 pounds per square inch, in fact, ranging from about 11.9 pounds per square inch to 14.7 pounds per square inch. With the development of these fields, some companies have used the average barometric pressure in these localities, plus a certain number of ounces or pounds as the absolute pressure base to be used in determining the unit of measurement. The unit of measurement established in this manner varies with the barometric pressure at

the point of measurement, and the results obtained are comparable only with measurements made at localities having the same barometric pressures, with resultant confusion.

For example, assume a pipe line where the average barometric pressure at one end is 14.4 pounds per square inch, and at the other end 11.4 pounds per square inch. At both ends a pressure of four ounces is used, giving absolute pressure bases of 14.65 and 11.65 pounds per square inch, respectively, at the lower and upper ends of the line. Using these values in the coefficients, for measuring at each end of the line, will obviously give different volumes. A coefficient calculated on an absolute pressure base of 11.65 pounds per square inch at the upper end of the line results in a volume approximately 20 percent greater than the measurement obtained by using an absolute pressure base of 14.65 pounds per square inch at the lower end of the line. It is evident that if more gas is measured out of the line than is measured into it, the units of measurement must be different.

In other words, the cubic foot used to measure the gas in is different from the cubic foot used to measure the gas out; hence the results obtained when different absolute pressure bases are used are not comparable. It is readily seen that if the average barometric pressure is used in calculating coefficients for meters at different elevations, it is impossible to compute pipe line losses without making corrections for these differences.

The absolute pressure of pressure bases in common use are as follows:

14.73 pounds per square inch:
30-inch Mercury at 32° F., practically sea level. This is used by the manufactured gas industry and in technical work and is recommended by California National Gasoline Association and Southern California Meter Association.

14.65 pounds per square inch:
Four-ounce plus 14.4 pounds. Used very generally for industrial sales in city distribution systems. The four-ounce pressure corresponds closely to average operating pressures in low pressure mains. Also used very generally in the natural gasoline industry.

14.9 pounds per square inch:
Eight-ounce plus 14.4 pounds. Used very generally for city gate, industrial and main line check meters.

15.025 pounds per square inch:
Ten-ounce plus 14.4 pounds. Specified by the Department of the Interior in "Operating Regulations to Govern the Production of Oil and Gas" on Government Lands. Also specified in the Louisiana and Mississippi law for all reports submitted to State Conservation Commission.

16.4 pounds per square inch:
Two pounds plus 14.4 pounds. Used very generally for gas purchased by gas pipe line companies.

The actual average atmospheric pressure at point of measurement plus four ounces is used by some natural gasoline companies, so that measurement may correspond to measurement used in making gasoline content tests where gas is measured through displacement meters at four ounces above atmosphere. Measurements may be made to correspond by using 14.625 pounds as a pressure base, and using a factor for actual atmospheric pressure on the readings of displacement meters during gasoline content tests. This latter method has advantage of using a unit of measurement comparable with measurement at other plants at different altitudes, and that has a definite relation to the unit, and when sales are made to pipe line companies.

The formula used for calculating the flow of gas through an orifice meter is:

$$Q = C\sqrt{Ph}$$

in which

Q = The quantity of gas passing the orifice in cubic feet per hour.
C = A coefficient, depending on the specific gravity of the gas, its temperature, size of pipe, size of orifice, location of pressure connections, etc.
P = Absolute pressure of the flowing gas.
h = Drop in pressure across the orifice in inches of water.

The absolute pressure, P, is the sum of the gauge pressure and the barometric pressure at the point of measurement.

In considering the matter of pressure extensions and that of pressure base, it should be remembered that the pressure base in the contract is purely a matter of definition and contract, whereas the atmospheric pressure upon which the extension table is computed is purely a matter of physical fact and the one is in no way dependent upon the other.

An orifice meter extension is the square root of the product of the differential pressure recorded and the absolute static pressure. The absolute static pressure is the sum of the static pressure as recorded on the gauge plus the actual atmospheric pressure. Although the atmospheric pressure actually varies because of weather disturbances, it is constant, within limits, for each locality. It is common practice, therefore, to use an assumed and accepted average atmospheric pressure for a given locality. The extension books in general use are based on an atmospheric pressure of 14.4 pounds. It is generally recommended that the 14.4 pounds extension tables be used for all average atmospheric pressures between sea level and 13.9 pounds; that 13.4 pounds extension tables be used where the actual average atmospheric pressure is between 13.9 pounds and 12.9 pounds; that 12.4 pounds extension tables be used where the actual average atmospheric pressure is between 12.9 pounds and 11.9 pounds; and that 11.4 pounds extensions be used where the actual average atmospheric pressure is between 11.9 pounds and 10.9 pounds.

When integrators are used, static settings may be obtained for any average atmospheric pressure and these settings may be used where the average atmospheric pressure varies not more than .5 pounds plus or minus.

When pressure extension tables are used, based on a barometric pressure of 14.4 pounds per square inch, a correction must be applied to the volumes calculated, if the barometric pressure at the point of measurement is other than 14.4 pounds per square inch. The correction to apply to the volume, obtained by the use of 14.4 pressure extension tables to correct for the actual barometric pressure at the point of measurement is:

$$\text{Multiplier} \sqrt{\frac{\text{Gauge Pressure} + \text{Barom. Pressure at point of measurement}}{\text{Gauge Pressure} + 14.4}}$$

This error becomes greater as the difference between the barometric pressure at the point of measure-

ment and 14.4 increases; but it decreases rapidly as the gauge pressure increases. However, when measuring gas at very low gauge pressures or at a partial vacuum, the error is considerable. If the barometric pressure at the point of measurement is greater than 14.4 pounds per square inch, the volume resulting from the use of pressure extension tables based on 14.4 pounds is less than the true volume and greater than the true volume if the barometric pressure at the point of measurement is less than 14.4 pounds.

Table 1 shows the error when measuring gas at various pressures, and different barometric pressures, at the point of measurement when the volumes have been calculated using pressure extensions based on a barometric pressure of 14.4 pounds per square inch.

A 13.4 pound extension book can be easily made by raising all the static pressure figures in the 14.4-pound extension book by one pound, the 12.4-pound table by raising these figures two pounds, and the 11.4-pound table by raising them three pounds. For example, the extension in a 14.4-pound table for one inch differential pressure and 100-pound static pressure is the extension for 114.4 pounds absolute, 10.7. If it is desired to change the table in which this extension occurs from 100 pounds static pressure on which the table was originally based to a new basis of 101 pounds, the extension of 10.7 is still the extension for 114.4 pounds absolute pressure, but is now the extension for 101-pound gauge and an atmospheric pressure of 13.4 pounds per square inch.

The use of the above method will result in certain

TABLE 1

Barometric pressure at point of measurement 14.73 pounds per square inch

Pressure	Error
20-in. Vacuum	3.5 % low
10-in. Vacuum	1.6 % low
0-lb. Gauge	1.15% low
5-lb. Guage	.85% low
25-lb Gauge	.4 % low
50-lb. Gauge	.25% low
100-lb. Gauge	.15% low

Barometric pressure at point of measurement 14.6 pounds per square inch

Pressure	Error
20-in. Vacuum	2.2 % low
10-in. Vacuum	1.0 % low
0-lb. Gauge	0.7 % low
5-lb. Gauge	0.5 % low
25-lb. Gauge	0.25% low
50-lb. Gauge	0.2 % low
100-lb. Gauge	0.1 % low

Barometric pressure at point of measurement 14 pounds per square inch

Pressure	Error
20-in. Vacuum	4.45% high
10-in. Vacuum	1.9 % high
0-lb. Gauge	1.4 % high
5-lb. Gauge	1.05% high
25-lb. Gauge	0.5 % high
50-lb. Gauge	0.3 % high
100-lb. Gauge	0.15% high

Barometric pressure at point of measurement 13 pounds per square inch

Pressure	Error
20-in. Vacuum	16.3 % high
10-in. Vacuum	6.9 % high
0-lb. Gauge	5.0 % high
5-lb. Gauge	3.7 % high
25-lb. Gauge	1.8 % high
50-lb. Gauge	1.1 %high
100-lb. Gauge	0.6 % high

Barometric pressure at point of measurement 12 pounds per square inch

Pressure	Error
20-in. Vacuum	30.9 % high
10-in. Vacuum	14.1 % high
0-lb. Gauge	8.7 % high
5-lb. Gauge	6.4 % high
25-lb. Gauge	3.0 %high
50-lb. Gauge	1.9 % high
100-lb. Gauge	1.1 % high

TABLE 2

Special Pressure Extension Tables Prepared by Bureau of Mines, Department of Interior, Casper, Wyoming.

Barometric Press. Lbs.	Static Pressures, Lbs.	Differential Pressures, Inches Water. Increments of 0.1 up to 5 inches, 0.2 up to 10, 0.5 up to 25 inches thereafter.
11.4	0 to 499	0.1 to 100
11.9	0 to 449	0.1 to 75
12.0	25 to 74	0.1 to 50
12.2	125 to 149	76 to 100
12.2	225 to 249	76 to 100
12.3	0 to 274	0.1 to 100
12.43	0 to 299	0.1 to 75
12.43	0 to 25 in. of Mercury Vacuum	0.1 to 100
12.75	0 to 299	0.1 to 75

Prepared by Lone Star Gas Company, Dallas, Texas
13.0—Differential in ½" increments to 110 inches, Static Pressure 0—450#
Prepared by Cities Service Company, Bartlesville, Oklahoma.
13.0—Differential in 1/10" increments to 50", Static Pressure 0—500#.

inaccuracies as the actual average atmospheric pressure varies from the pressure on which the table used is based, and this inaccuracy increases as the pressure under which the gas is measured decreases. The following table shows the maximum error at various pressures.

Error due to .5-pound difference between actual atmospheric pressure and atmospheric pressure on which extension table is based.

Static Pressure	20 Inches Vac.	10 Inches Vac.	0#	25#	50#	100#	250#	400#
Error	5.6%	2.7%	1.8%	0.6%	0.4%	0.2%	0.1%	0.06%

When operating conditions are such that the use of the published extensions result in an appreciable error, one of the following methods may be used:

The static pen on the meter may be lowered the amount by which the actual average atmospheric pressure is lower than the standard 14.4-pound and then the 14.4-pound extension tables may be used. For example, if the actual atmospheric pressure is 13.9 pounds, which is .5-pound lower than 14.4 pounds, and if a test gauge should show the static pressure to be 10 pounds, the static pen should be set at 9.5 pounds.

The same corrections can be made on meters recording gas at a vacuum by considering two-inch vacuum the equivalent of one-pound negative for practical purposes. Where L-10 or other square root charts are used, the proper amount of such adjustment should be carefully calculated.

A special extension book may be computed covering the atmospheric pressure desired. Several such special extension tables have been computed and may be obtained from the Bureau of Mines and others, as shown in Table 2.

In the California Natural Gasoline Association Bulletin No. S-282, which was revised in April, 1929, there appears a paper that was presented by F. A. Hough before the Pacific Coast Gas Association in September, 1927. This paper suggests a method of determining the average barometric pressure for use in connection with orifice meter measurement. The method suggested by Mr. Hough and a curve showing the barometric pressure at various elevations is as follows:

To facilitate the using of true absolute pressures in calculating orifice meter data, the chart shown in Figure 1 has been plotted. This chart gives values for the barometric pressure of elevations ranging from sea level to 7000 feet, and is applicable, the committee believes, to all points in Southern California where orifice meters are used. The data for this chart were obtained as follows:

From the United States Weather Bureau in Los

WE BUILT THE WORLD'S MEANEST DRIVE and learned how to make BELTS 1200% BETTER!

"Build the meanest drive possible—then build a belt that can take it!"

BELTS—all makes—weren't standing the gaff on high speed, high tension drives, especially over small pulleys. There were too many breakdowns. So the G.T.M.'s—Goodyear Technical Men—reported.

Goodyear accepted the challenge. Orders went out to the development engineers: "Find out what's happening. Build the meanest drive imaginable—then build a belt that can take it!"

The "Belt Killer"

So the engineers built the great grandfather of all mean drives—around, over and under a series of small pulleys that weren't any more than shafts—a back-breaking drive that packed months of wear into hours. They called it the "Belt Killer."

We tested all makes of belts—our own and competitors'—at high speeds. Five—ten minutes—they whirred around those vicious little pulleys—then pf-t-t-t! Not a belt made could stand it over *fifteen minutes!* The constant flexing simply tore them apart!

Then we went to work in earnest. Built scores of new belts. Tried new compounds, different ply arrangements. That didn't help!

We began all over. Built a belt of endless cords, laid side by side, enclosed in a stout cover, and impregnated through and through with Goodyear Rubber. On the "Belt Killer" it went. Ten minutes—fifteen minutes—an hour—all day—without a sign of breaking.

That was something like it! We built more belts, better belts, the same way. Put them back on the "Killer"—sped up the r. p. m. 100—200—300 hours those belts took that brutal punishment—*1200% longer than any previous belt!* Goodyear had found the answer!

COMPASS Solves the Problem

That record-breaking belt is now famous throughout all industry as the Goodyear COMPASS Cord Endless Belt—the most nearly stretchless belt made. On hard, fast drives that formerly ate up a belt in weeks, it is delivering months and years of uninterrupted service—cutting belt costs to an all-time low.

The "Belt Killer"... COMPASS ran over 300 hours

Specified by G. T. M.

The perfection of the cord belt is typical of the work that is constantly progressing in Goodyear Development Laboratories to cut the costs of industry. That is why Goodyear Mechanical Rubber Goods give such long, trouble-free economical service—because they are developed for the job, and individually specified to your operation by the G.T.M. To consult this practical expert, write Goodyear, Akron, Ohio, or Los Angeles, Calif.

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Angeles, the average barometric pressure for the period from 1878 to 1924 was obtained, as well as the average temperature for the same period. The assumption was then made that the average temperature at all other points in Southern California is the same as that of Los Angeles (a rather large deviation from this assumption would cause a negligible error in the barometric pressure reported) and that the average barometric pressure for all points in Southern California differs from that of Los Angeles only because of differences in elevation. The elevation of the weather bureau was obtained and the barometric pressure for a series of elevations was calculated by means of the following formulae taken from Smithsonian Physical Tables, 7th Revised Edition, page 145.

$$Z = C\left(\frac{B_o - B}{B_o + B}\right)$$

$$C \text{ (in feet)} = 1 + \frac{t_o + t - 64}{900}\Big)52494$$

In which Z = difference in height of two stations in feet,
B_o = Barometric pressure at the lower station in inches of mercury,
B = Barometric pressure at the upper station in inches of mercury,
t_o = Temperature at the lower station in °F., and
t = Temperature at the upper station in °F.

Sample calculations:

Average barometric pressure at Los Angeles = 29.619 inches mercury.
Average temperature at Los Angeles = 62.5° F.
Elevation of barometer at Los Angeles = 361 ft.
Elevation of upper station = 600 ft.
Average temperature at upper station = 62.5° F.

$$C = (1 + \frac{62.5 + 62.5 - 64}{900})\ 52494$$

$$C = 56052$$

Transposing the equation $Z = C\ (\frac{B_o - B}{B_o + B})$

we find that $B = (\frac{C - Z}{C + Z})\ B_o$; $B = \frac{56062 - (600 - 361)}{56052 + (600 - 361)}$

B = 29.368 In. Hg. = 14.42 pounds per square inch.

To determine the average barometric pressure at any meter station, it is only necessary to look up the elevation of the meter on a contour map and then read from the chart the barometric pressure corresponding to the elevation of the station. This procedure will doubtless give a value nearer to the average barometric pressure than could be determined by a few observations at the meter by means of an aneroid barometer and the labor involved is less. If a chart, such as this one, could be generally accepted as standard, disagreement among various companies as to the average barometric pressure at any given point could be eliminated. A useful figure disclosed by this chart is that a difference

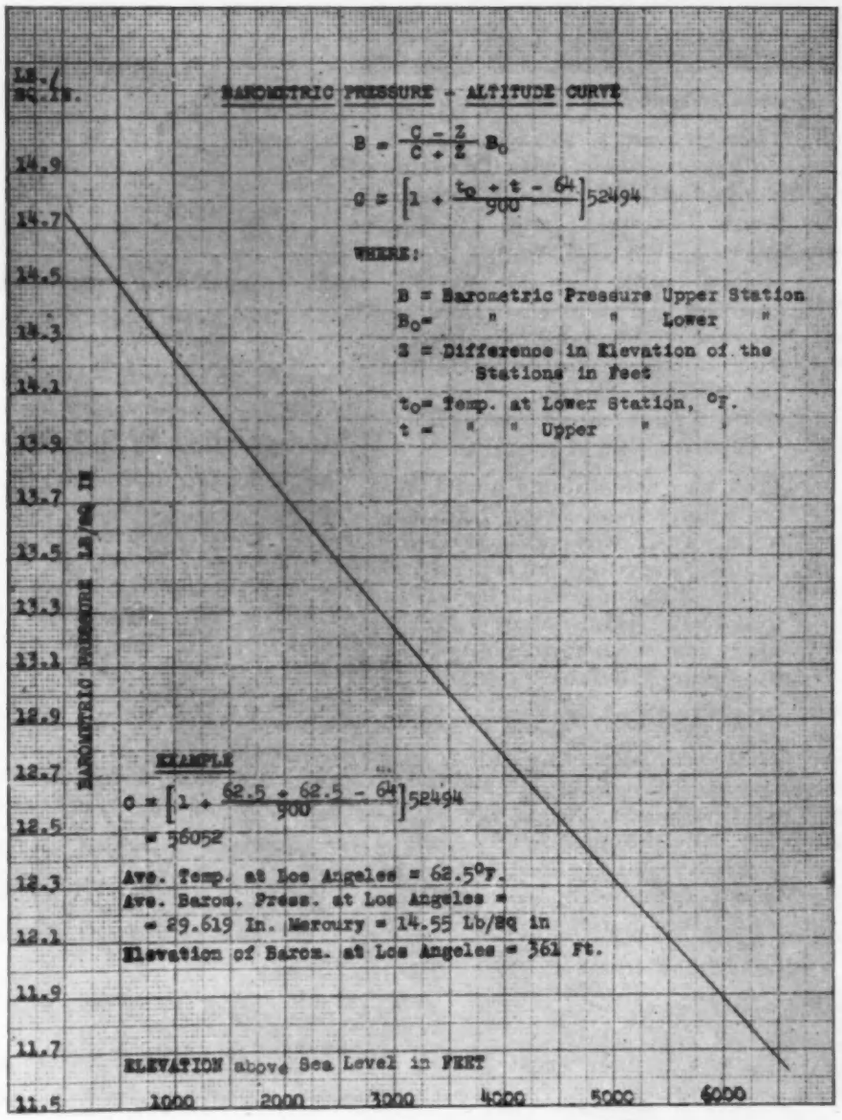
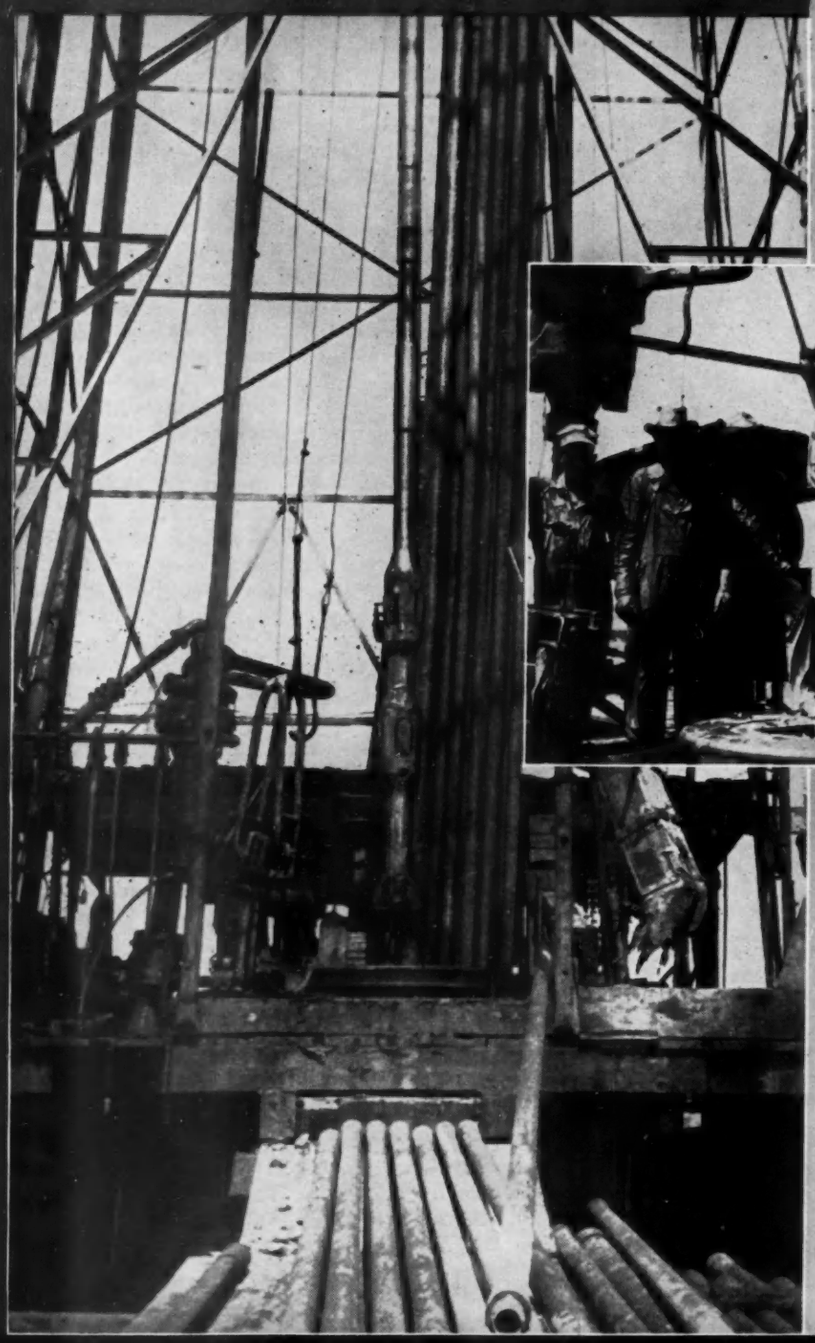


FIGURE 1

2 REED 15" DOUBLE THREE-POINT REAMERS AND A SPORT MODEL ROCK BIT

RUNNING ON CADE #47 AT HIGH ISLAND, TEXAS



A DOUBLE 3-POINT ABOVE DRILL COLLAR NOT SHOWING IN THE PICTURE

REED ROLLER BIT CO.

REED ROTARY DRILLING TOOLS

SPEED - ECONOMY - DURABILITY

This man is going to learn
a HOLE lot
about
Drilling Straight
with the

H-K
(Hewitt) (Kuster)
Directional
Magnetic
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of 100 feet in elevation causes a difference of barometric pressure of approximately .05 pound per square inch, or .1 inch of mercury.

In the past four or five years competitive fuel has been so keen that it is to the gas industry's advantage to note what the differences would be in basing a cubic foot of gas on a too high or a too low an absolute pressure base.

Since the weight of a unit volume of gas does not change, and neither does its heat content, it is apparent that through the use of different units of measurement the unit volume will change and the heat content per unit volume will be different. Therefore in making comparisons between gas and other fuels it is necessary to know the absolute pressure base used in establishing the unit of measurement. The importance of this, when making comparison with other fuels, is best illustrated by an example:

A gas measured, using an absolute pressure of 14.9 pounds per square inch and 60° F. temperature, to establish the unit of measurement, contained 1000 B.t.u. per cubic foot. The same gas measured, using an absolute pressure of 11.9 pounds per square inch and 60° F. temperature, to establish the unit of measurement will contain 799 B.t.u. per cubic foot. Assuming a barrel of oil to contain 5,500,000 B.t.u., this would be equivalent to 5500 cubic feet of gas, measured at an absolute pressure base of 14.9 pounds per square inch, and 6887 cubic feet of gas measured at an absolute pressure base of 11.9 pounds per square inch. It is evident that in making comparison between gas and other fuels that proper thought must be given to the unit of measurement, to which the gas is referred, since, the heat content of liquid fuel is the same at any altitude.

In establishing the unit of measurement, in this case the cubic foot, two conditions must be known. The first is the base temperature to which our standard cubic foot is to be referred, and the second is the absolute pressure to which this unit of measurement is to be referred. Regarding the first condition, the accepted base temperature with very few exceptions is 60° F. In all gas measurement work great care has always been taken to refer the flowing temperature to the standard base temperature by making the necessary corrections. Regarding the second, there seems to have been a great deal of confusion or misunderstanding as to how the barometric pressure affected orifice meter measurement. There has apparently been a misunderstanding that in order to make volume comparable, the coefficient should be corrected for changes in barometric pressure.

Displacement Meters

Displacement meters set where the pressure varies shall be equipped with pressure and volume recorders, or pressure, volume and time recorders. The proper multiplier must then be used for the average pressure recorded by the pressure and volume recorder or for each recorded volume cycle of the pressure, volume and time recorder. The table of multipliers shall be based on the assumed and accepted atmospheric pressure plus the recorder pressure in pounds divided by the absolute pressure base.

The formula is:

$$\frac{\text{Accepted Atmos. Press.} + \text{Gauge Press.}}{\text{Absolute Press. Base.}}$$

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Geophysical Operations

HAVE BEEN VERY SUCCESSFUL IN SAN JOAQUIN VALLEY DURING PAST YEAR

By BRAD MILLS, Associate Editor

CALIFORNIA rapidly is accepting geophysical methods as a valuable aid in the search for structures in the bed of the San Joaquin Valley. Geophysics failed to impress operators for several years, but during the past year existing methods have been used with outstanding success in the great flat areas that offer few surface contrasts. The valley district suited to this type of work is about 200 miles long and from 25 to 75 miles wide, but most of the geophysical activity has been confined to sectors relatively near oil or gas production.

Five of the seven major California operators have geophysical crews at work in the San Joaquin Valley. Most of this work is being done by geophysical companies, but the oil companies are working closely with the contracting firms. The 15 geophysical crews now at work in the San Joaquin Valley are divided as follows:

Standard Oil Company	3
Associated Oil Company	2
Shell Oil Company	2
Ohio Oil Company	1
Union Oil Company	1
The Texas Company	1
Pure Oil Company	1
Continental Oil Company	1
Amerada Petroleum Corporation	1
Milham Exploration Company	1
Western Gulf Oil Company	1
Total	15

All the work being done is reflection dip shooting. The value of this work over refraction work is simply that refraction methods have never worked in California, whereas dip shooting has been very satisfactory. Perhaps one reason for this is the lack of uniform or correlating beds, in contrast to the regularity of such beds in the Mid-Continent, where refraction has been of value.

Many California geological problems are not entirely structural, but are a combination of structure and overlap (thinning of section as well) that cannot be worked by refraction methods. These conditions prevented acceptance of results of refraction work.

In refraction work, lines were run with recordings taken from one half to five miles from the shot point. Obviously where dips and lithologic variations change within relatively short distances, the refraction method was at a disadvantage. In dip shooting, spreads (distances from shot point to point of recording) seldom are over 1000 or 1200 feet, and in most cases less. Reflections are obtained from 500 to 10,000 feet below sea level in the San Joaquin Valley.

Reflection shooting has been checked many times, and as a rule has checked very satisfactorily. In one instance, a geophysical crew tied in between two cored well, about five miles apart, and missed by only nine feet. In another check, the tie-in missed by only 22 feet. In dip work, one check opposite a cored well from which good core dips were available and the hole surveyed, the computed dips were within one half of one degree of the actual corrected measure. Dips as high as 75 degrees have been worked successfully.

The big rush for seismograph work started about a year ago, and to the present has been on the upward trend. This has been prompted to some extent to the vogue, but more largely because of some excellent work that led to significant drilling operations. The following discoveries have been made in the valley:

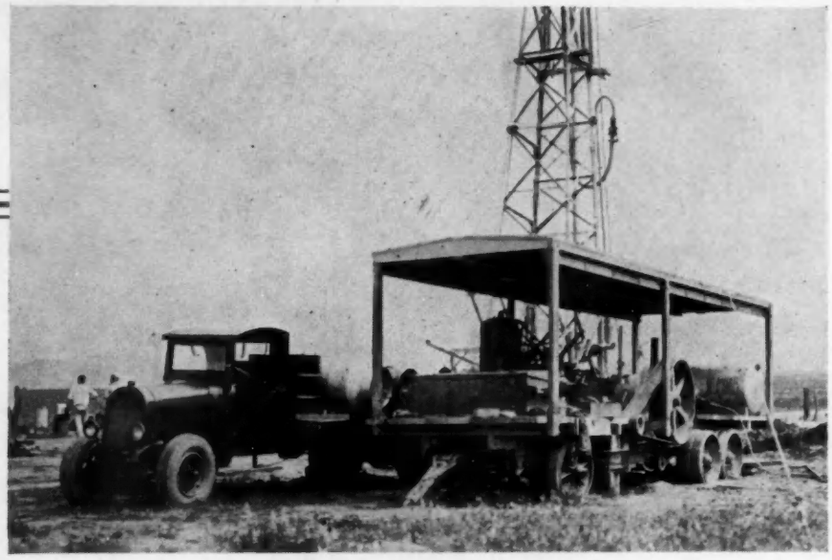
1. Buena Vista Gas Field. Discovered by Ohio Oil Company after a detailed geophysical survey under the supervision of a geophysical company.
2. Trico Gas Field. Discovered by Standard Oil Company of California.
3. Semitropic Ridge Gas Field. Discovered by Standard Oil Company of California.

Other geophysical plays of importance which came very near being discoveries were Pure Oil Company's Chowchilla Ranch 1, Madera County, which had a good flow of gas; Amerada Petroleum Corporation's Devils Den well, which was an overlap test that looked promising for a time but failed to come through; and Western Gulf Oil Company's S. P. No. 1, in western Fresno County, a combination core hole and seismograph play and a very interesting test.

At present several seismograph plays are being drilled, or are about to be drilled. These tests are Shell Oil Company's Buena Vista Lake well, south of Ohio Oil Company's new gas field; General Petroleum Corporation's Commanche Point test, and Ohio Oil Company's San Emidio Ranch well.

It is interesting to note that all the bona fide discoveries were gas fields. The reason for this is not definitely understood, since all structures have been well defined "domes." Most of the geophysical work has been done in the center of the valley, where it seems only gas exists. It is entirely possible that a dome will contain oil in commercial quantities, and that an important discovery will be made. Valley floor work has been done because the rim and edges (away from the outcrops) is a very difficult part to work.

Several factors definitely limit the value of geophysics in California. Existing geophysical methods depend chiefly on the differing density or hardness of rock masses. Buried salt domes are the ideal material—a rigid mass a mile or more in diameter surrounded by sediments having a very different resistance or density—and it is with these that the reputation of geophysical prospecting was established and is maintained. A granitic or other rigid basement is only of limited use



A heavy coring machine at work in the San Joaquin Valley.

in finding oil. Work on straight sediments, while it has given some results, has not been uniformly successful. Where thick, hard beds alternate with soft ones, fair work may be done. Where all beds are thin or monotonous, or do not differ much in density, poorer results are obtained.

The California marine Pliocene (the first oil horizon) is in general a monotonous succession of thin beds of gravel, sand, silt and clay from a few inches to a few feet in thickness each. These are soft and differ little in density. Extensive geophysical work on beds of this age has so far failed to result in a commercial oil discovery, and it is doubtful if present methods can overcome the difficulties involved. In areas showing a better consolidation, exceptions may be encountered, however.

The upper Miocene (second oil horizon) presents difficulties similar to those of the Pliocene. The lower Miocene (third oil horizon) has thicker beds, is moderately consolidated, and may yield better results. The Oligocene (fourth oil horizon) presents conditions somewhat similar to those of the lower Miocene, and may yield very good results. The Eocene (fifth oil horizon), and the Cretaceous (gas only, so far), have thick beds, are rather well cemented, and are much more reliable than any of the preceding.

Geophysics have proved most successful in California under three conditions. The more favorable conditions for geophysical prospecting apparently exist to an appreciable extent only in the central and eastern portions of the San Joaquin and Sacramento Valleys. The three most favorable conditions are:

1. Where the Eocene or/and Cretaceous are present. If an anticline is located in these, it usually extends upward into any overlying Miocene and Pliocene rocks that may be present, thus allowing the latter to be worked through the former. Central San Joaquin Valley, as west of Fresno, furnishes examples.

2. Where the basement complex is cut by a fault against which oil collects, and the fault may be mapped by ascertaining the offsetting of the basement complex. The Mountain View field was first prospected on this evidence.

3. Where the basement complex forms a ridge upon which oil-bearing beds overlap, thus trapping oil. Edison is an example of this condition.

The Sierra Nevada block is a great slice of the earth's crust about 600 miles long and 100 miles wide that has been slowly tilting westward for millions of years. The uptilted or eastern side of this block forms the Sierra Nevada mountain range, and the downtilted or western side underlies the San Joaquin and Sacramento valleys. The axis of rotation approximates the boundary between the mountain and valley areas. As the block rotates around this axis, the eastern mountains rise higher and the western valleys sink lower. Material worn from the mountains washes down and deposits in the valleys, thus building a thick sedimentary blanket.

The thickness of sediment in the valleys necessarily increases westward across them, being nothing at or about the axis of rotation, and having a thickness of several miles on the far western edge. In this connection thick sediments cannot readily fold, because they are underlain by a rigid basement at shallow depth, like a few sheets of paper on a pane of glass. Thick sediments fold readily because they are like many sheets of paper, and upper layers being relatively far from the rigid basement. Because of these features, the thin sediments in the eastern part of the valleys are virtually unfolded, and dip westward in a monocline. As the sediments thicken westward, there is increased folding, and on the far western edge of the valleys where the thickness is many thousands of feet, there are many steep anticlines.

Oil was first discovered in a chain of great fields along the highly folded western edge of the San Joaquin Valley, because the many anticlines there projected above the plain as hills, and could be readily mapped. Eastward on the plain the sediments become thinner and were less strongly folded. The flatter anticlines of this portion are now largely hidden by later sediments which were spread to make an even valley floor. The Lost Hills anticline is faintly revealed at the surface, and low swells overlie the folds at Buttonwillow and Semitropic, but the general topography of the valley is flat.

Far to the east there is little or no folding, due to the increasing depth to the basement complex, but there are faults against which oil migrating toward the mountain range may collect, as has been demonstrated at Mt. Poso, Round Mountain and Mountain View.

It is in this flat, faulted eastern half of the San Joaquin and Sacramento Valleys, yielding little surface indications, that geophysical prospecting has proved most valuable. Central portions of the valley are underlain by Eocene and Cretaceous beds which may allow anticlines extending upward into overlying rocks to be mapped, while in the monoclinal eastern portion, faults that trap oil may be found by mapping offsets in the basement complex.

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California Oil Reserves

OF THE FUTURE DEPEND MOSTLY UPON IMPORTANT UNTESTED DEEP HORIZONS

By J. EDMUND EATON, Consulting Geologist
Los Angeles, California

IF California is to meet its demand by 1941 it is necessary that 225,000,000 barrels of new production be discovered each year, preferably starting in 1936. The state's prospective reserves are considered large, but to uncover nearly a quarter of a billion barrels of oil each year means unrelenting activity.

PART II

Prospective Reserves

IN PART I of this article the proven oil reserves of California were discussed. It was concluded that the close of the current townlot phase will see a rapidly increasing drain on spaced fields, with supply failing to meet demand by 1941 unless appreciable new fields are uncovered. Maintenance of a safe margin was estimated to require 225,000,000 barrels of new discovery per year, preferably starting in 1936.

No prediction of shortage was intended, but only a warning against being lulled into false security by flush development which masks the fact that the state has a rather meager visible supply.

Reliability of Estimates

Proved reserves can be estimated within permissible error, being comparatively concrete factors. Prospective reserves, on the other hand, are relatively intangible, and estimates of them are subject to large inherent error. This is obvious from existing records. Calculations of the proved supply have repeatedly been found to be within 10 or 20 percent of accurate, but computations of prospective supply tend to be so erroneous as to be amusing when viewed in retrospect. Estimates of prospective reserves by reputable authorities have invariably been underestimates, due to a psychological law inescapable by even the most careful.

Estimates of prospective reserves made 20 years ago are ridiculous in the light of subsequent development. The United States, and individual states, have produced more oil than these allowed of, and there is more oil in sight now than there was then. Estimates of 10 years back are almost as amusing. Those five years of age are about ready to be framed as terrible examples of how much geologists can underestimate prospective supply.

Those estimates of future supply that we make now will be assumed to be different. The evidence which shows them to be erroneous has not yet appeared. Some by good authorities will be considered by legislative committees as if statements of fact. Total ultimate supply will be accepted as approximating a certain amount. This will be divided by consumption, giving exhaustion in so many years. That past estimates have doubled every so often, and that future ones may rise on a somewhat similar scale, will be ignored. Our minds function in such a manner as to cause it to appear that, whatever errors of judgment we may have made in the past, our present judgment is approximately correct.

It may be asked, then, what use there is in making estimates of prospective supply. Such estimates tend to have value from the standpoint that some estimate of magnitude, distance, or time tends to be better than no idea at all. Their disadvantage is that laymen, and occasionally geologists themselves, accept them as being measurements instead of guesses, with the result that the public is needlessly frightened, and laws are passed that harass the oil industry. Under-estimates of future supply are directly responsible for the confiscatory measures that the oil industry is continually fighting.

Mental Hazards

Some reasons why geologists habitually underestimate prospective reserves may be briefly considered.

A geologist spends years trying to find an oil field. Hundreds of anticlines are examined, and several tests at a hundred-thousand dollars each may prove the best of these worthless. This geologist may possibly reason that his failure is due to just not knowing enough geology; if so, he is above the average. The more natural thing for him to do is

to gradually slip into reasoning that if a man as good as he is cannot find an oil field, or can find only one or two, then they must be nearly all discovered. If he computes prospective reserves there will be a tendency for him to underestimate these, because the visible presence of his difficulties overbalances the invisible fields.

There is the case of the geologist estimating the percentage of oil recoverable and lost in depleted fields. The gas lift, water drive, acid treatment, selective shut-offs, and a host of other improved practices have measurably increased recovery since past computations were made. Who among us knows the future inventions that probably will revolutionize recovery methods? At present we must cite visible factors, timidly throw in some ifs and maybes about now unrecoverable oil that only cause doubt, and underestimate. There is no handle by which we can rate future methods. Relations which are unknown cannot be combined into ideas.

Then there is the question of untimely exhaustion of the total supply. In all human history there is no record of any important resource being exhausted without a superior substitute taking its place. The circumstantial evidence is therefore overwhelming that petroleum will be no exception. A substitute will not be needed, however, for hundreds or thousands of years, as the oil obtainable from the more easily worked coal in sight will last that long. The inflexible nature of the psychological hazards discussed is illustrated by the feature that humanity is unable to conceive of science reducing the cost of oil from coal the slight amount necessary to make it a competitor with natural petroleum. Modern science, rushing forward so rapidly that it threatens to destroy the race, and entirely capable, if necessary, of finding a complete substitute for petroleum, is not credited with the ability to reduce the cost of one refinery operation a few cents in the future.

Prospective Reserves

I do not know the magnitude of the prospective oil reserves of California in barrels and percentages. Any such figures given would be a guess. In my opinion an estimate in barrels and percentage by any geologist would be a guess.

In an endeavor to avoid errors such as those made in the past, and keep to tangible factors as closely as possible, I am going to present four geological maps and one table, with a few explanatory remarks. The reader can consider this evidence and make his own guesses.

Table I shows the knowledge of geologists as to what horizons are and are not favorable for petroleum in California. It has been compiled from the very highest authorities, and knowing the inherent honesty of most geologists I feel sure that they will admit (privately) that it is a fair concensus of the best opinion. The older geologists have long had the contents memorized. If any younger ones are preparing to estimate the prospective reserves of California in barrels and percentages, it is suggested that they clip this table for future reference. It is good for the soul.

Figure 3 comprises four geological maps covering the four general horizons in which oil has so far been found in California. Basins are outlined. Those portions within them which are more than half prospected are left blank, and those portions less than half prospected are shaded. The black areas show where oil of the age specified has been found.

Where oil fields (black) are shown in the same place on two or more maps, two or more horizons of differing age are producing in one field. Where unshaded areas (within the basins) occupy the same place on two or more maps, two or more horizons have been more than half tested. Where shaded areas occupy the same space, several horizons are less than half prospected.

Because of the prevailing great thickness of horizons, in few areas is it possible to test more than two with present equipment. The Pliocene and upper Miocene are in many fields produced from together, and in a few others the lower Miocene and Oligocene-Eocene may both be tapped. In most areas two horizons is the limit with existing drilling methods. For instance, deep wells at Ventura Avenue are apparently still in the Pliocene at around 9000 feet. The upper Miocene, almost certainly pro-

TABLE I

Changing Views of the Geological Fraternity. At Each of These Periods the Big Fields Had All Been Discovered.

HORIZON	1908	1915	1923	1928	1929	1930	1933
Pliocene.....	Some production. Of secondary interest	MAIN PRODUCTION (but all discovered)	L. A. BASIN FLOODS WORLD	Good (but all discovered)	PLAYA DEL REY	Good (but all discovered)	MOUNTAIN VIEW BONANZA
Upper Miocene	Hopeless	A little production, but passe	Chicken feed Hopeless for big production.	KETTLEMAN HILLS (upper zones)	L. A. BASIN FLOODS WORLD	Good (but all discovered)	
Lower Miocene	MAIN PRODUCTION and hope	Some production. Of secondary interest	Not worth prospecting	ELWOOD BONANZA	Revived interest	KETTLEMAN HILLS (lower zones)	Main hope
Oligocene	Highly regarded	Small production. Mild interest	Forgotten (all discovered)	Forgotten (all discovered)	Forgotten (all discovered)	NORTH BELRIDGE GOES WILD	Breaking records to get down to the Eocene.
Eocene	Highly regarded	Hopeless	Hopeless	Hopeless	Hopeless		
Cretaceous	Possible	Hopeless	Hopeless	Hopeless	Hopeless	Hopeless	GAS IN ALMOST THE FIRST REAL TESTS

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ductive there, lies approximately between 10,000 and 13,000 feet, with the lower Miocene at 13,000 to 15,000, the Oligocene 15,000 to 19,000, Eocene 19,000 to 26,000, and the Cretaceous below 26,000 feet. At Santa Fe Springs untested deep zones are indicated to lie approximately as follows: Lower Miocene 9000 to 11,000, Oligocene 11,000 to 13,000, Eocene 13,000 to 16,000, with the Cretaceous below 16,000 feet.

In no major field of which I have record has any full horizon present above the basement complex failed to be productive when tested to bottom. The basement complex is apparently the limit in most major fields. Deep wells in various of these have tested the upper few hundred feet of an underlying horizon, have found them barren, and have stopped because of mechanical limitations. When such horizons 2000 to 5000 feet thick produce in adjacent fields from zones perhaps a few hundred feet thick in their middle or lower portion, to find upper sands barren in a partial test does not disprove the entire horizon.

It is possible that tests unknown to me in some major field have found a full horizon barren, and such instances will almost certainly be found in the future. I merely call attention to the feature that, as regards full horizons present, the possible oil in major fields of California appears to be bottomless until the basement complex is reached. In an almost complete absence of barren full-thickness tests, deeper prospective productions in various major fields must be considered.

Qualifying Factors

In outlining areas in Figure 3 only those parts of basins that have thicknesses of several thousand feet remaining, that is, where there is a sufficient blanket, have been included. The original basins were considerably larger. Edges have been eroded completely, and other portions reduced to isolated remnants. Portions at present having an insufficient blanket are not shown.

All areas included within an outline are not equally favorable, due partly to differing thicknesses, deformation, and organic content. In general, and only in general, the best geological conditions for the occurrence of major yields in Pliocene, Miocene, and Oligocene rocks appear to be in or not far away from the proven areas. Prospects for high yields in Eocene rocks are perhaps about equally good in the more and the less prospected regions, the series having been tested on good structure in only two or three locations. The Cretaceous has been tested adequately only in poor areas; as regards complete tests it is almost unprospected in the more favorable territory.

Relative values are the crux of the question of prospective supply. The prospective reserves of California are not a matter of simply comparing the shaded and unshaded areas, although it is believed that such a simple comparison would give a more accurate idea of the prospective reserves than those set forth at different times under the influence of various opinions shown in Table I.

In this connection a chief cause of error in past estimates of prospective supply has been the inability of geologists to see appreciable chances in territory other than that immediately surrounding existing production, this feature applying to other provinces as well as to California. This attitude has made the prospective supply little more than the proven one with a little adjacent territory thrown in.

As late as 1919 the favorable parts of Los Angeles Basin were generally considered to be confined to its edges. By far the larger part of subsequent production has come from previously ignored central parts of this basin. As late as 1926 the more attractive lands of San Joaquin Basin were generally supposed to be restricted to a narrow strip along its southwestern edge, the monoclinal Kern River field on the east being considered an exception. Since that date five oil fields have been found in one small corner of the little-valued eastern portion. This corner is the only part which has been adequately prospected. One of the first deep tests farther north has recently developed a gas field. Near the center of San Joaquin Valley pioneer tests have lately developed several gas fields in upper strata. Present equipment is unable to get down to the normal oil horizons.

Between each period of extended discovery it has been deplored that most of the big oil fields have been discovered. I have read the statement repeatedly, and have heard it verbally expressed by geologists who have collaborated on estimates of future supply. As each new field has extended the limits of the productive territory, adjacent lands have been admitted to be probable for oil. Each time we have grudgingly raised our estimate.

Our stock argument has been that vast unprospected areas have no visible structure, or lie outside of the more highly organic content. Subsequent investigations and developments have badly shattered these prejudices. Recent analyses have shown that the various marine horizons from the top of the Pliocene down to the base of the Cretaceous do not differ greatly in organic content. Nine years ago the southeastern corner of San Joaquin Basin was added to the obviously favorable territory. A few months ago an isolated well a hundred miles north of previous production added the entire eastern side of the basin. Almost simultaneously scattered discoveries near the basin's center added nearly the whole.

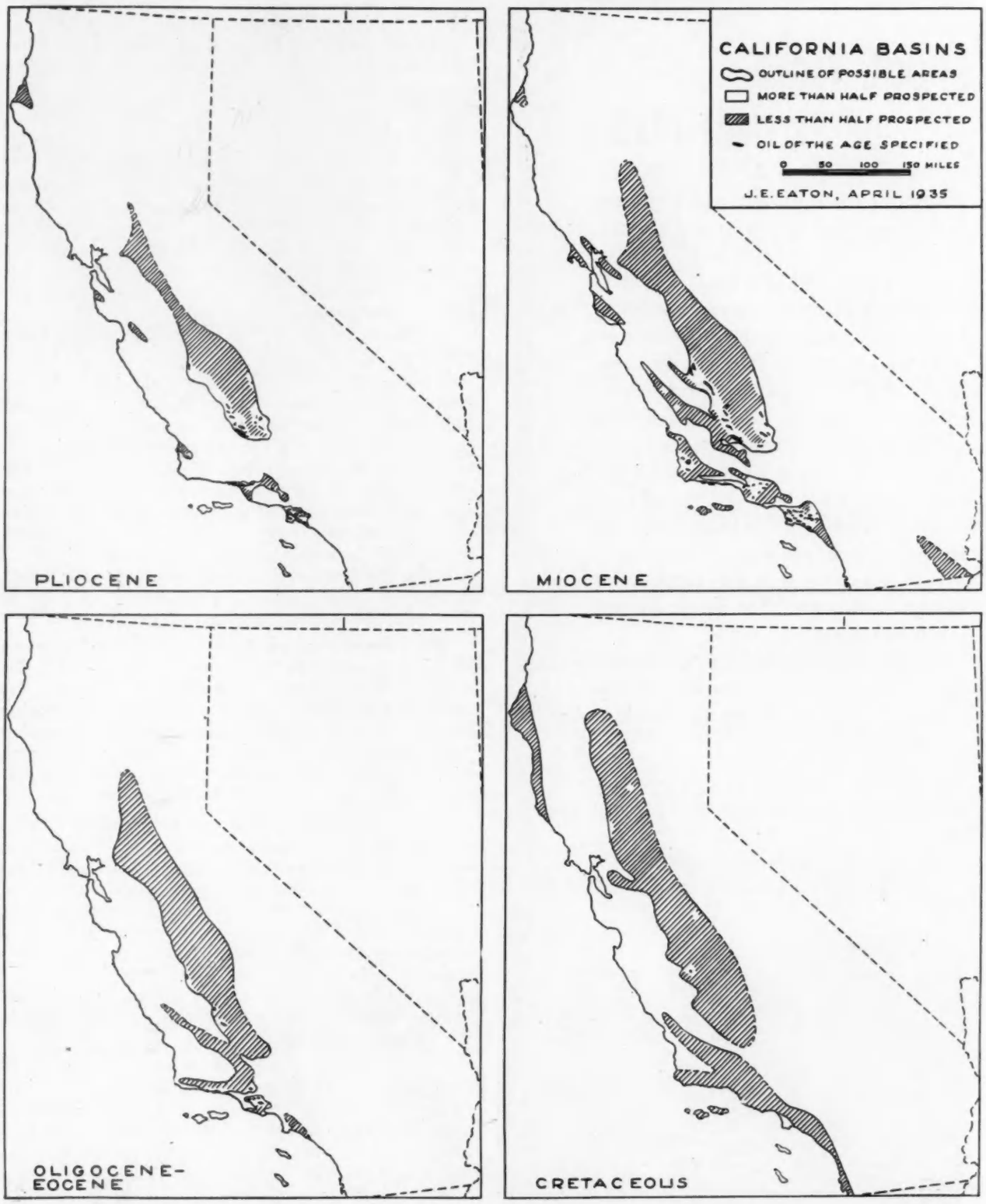
Rising Estimates

Consider the Pliocene and Miocene maps of Figure 3. Of the largest area outlined, the entire southern half must now be considered favorable for prospecting. The northern half, untested, is still ignored. The same arguments are being used against it that were used in the past against now proven portions.

In Table I the column for the year 1908 shows upon what ideas we based estimates of future supply at that date. Succeeding columns show the ideas upon which we based succeeding estimates. Turning to Figure 3, ten years ago only the unshaded portions were given much weight for prospective

FIGURE 3

Prospecting status of California. Interest has been chiefly near known fields. Territory more than a few miles from production is largely untested.



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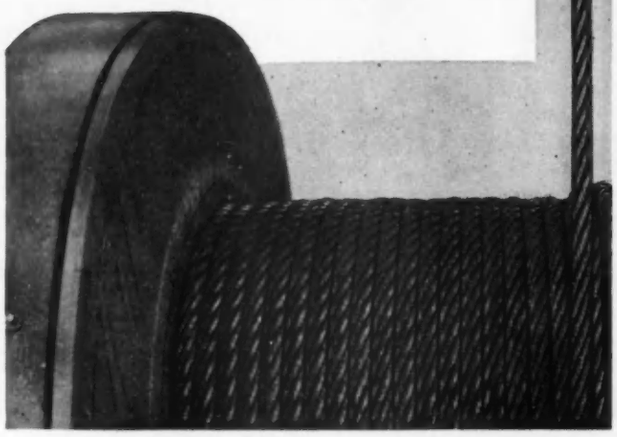

supply. Since that time the obviously favorable area has doubled. In the future it may quadruple. Five years ago the Eocene was given little weight in estimates. At present it is to be assigned large values. At this writing any committee estimating the prospective supply of California might almost ignore the Cretaceous. The possibilities are unknown, being virtually untested.

It is my hope that the average reader may gather from this discussion some idea of why geologists who so accurately compute the proved reserve so grossly underestimate prospective supply.

To summarize this section, my current impressions of the data shown on Figure 3 are as follows:

Pliocene territory unprospected is about three times as large as that prospected. Of this, an area approximately as large as the tested area may be as favorable for prospecting, but may give a smaller total recovery. Another portion of somewhat similar size is indicated to be favorable, with a much smaller total recovery. Another third is insufficiently known to be rated, but is probably geologically inferior.

Miocene territory unprospected approximates three times the size of that prospected. An area about equal to that tested may be favorable for large productions, with the balance markedly inferior. A local characteristic of the California Miocene is the great number of marginal areas partly or wholly undeveloped because small production is not attractive at present prices. I have a note book in which numerous anticlines, and semi-proven extensions of minor fields, are listed as being attractive for small, shallow production when prices warrant. I imagine that other geologists have similar lists.

Oligocene-Eocene territory unprospected is some 15 times as large as that prospected. There is insufficient evidence on which to base a rating. Development has been chiefly in Oligocene non-marine strata near the southern coast giving prevailing small yields. Marine horizons seemingly of Eocene age lying deep beneath the central plains have recently been tapped for high initials in one field.

Cretaceous territory unprospected is some 50 times as large as that adequately prospected. There is no basis for a rating, as few, if any, large closed structures have been completely tested. A majority of those tests so far made on good structure have yielded more or less gas, but the system is so thick (locally up to 30,000 feet) that the more favorable horizons, which are in its lower part, can in few places be reached out on the plains with present equipment. The chief possibilities apparently lie in the large central area.

In making the above comparisons I come perilously close to giving percentages, which are unwarranted and inadvisable. The comparisons made have been deemed necessary to deter the reader from possibly assuming that the shaded and unshaded areas on Figure 3 can be simply compared.

Any survey of prospective production should consider the untested deep horizons of major fields which are now beyond the reach of the drill. The

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feature mentioned that in few, if any, of these major fields has any full horizon above the basement complex been found barren when completely tested suggests the possibility that better future equipment may add appreciable reserves from the present producing areas at depths below 9000 feet, which is at present the average limit for exploration. Any such reserves will be uncovered slowly, as drilling methods gradually improve.

Invading Companies

The new oil fields of California during the past 10 years have been discovered chiefly by eastern interests who have invaded this province. The success of the newcomers has been phenomenal. Five of the seven major oil fields uncovered in the decade are due the work of such concerns. Seal Beach by Marland Oil Company, Fruitvale by Western Gulf Oil Company of California, Elwood by Barnsdall Oil Company and Rio Grande Oil Company, Kettleman Hills by Milham Exploration Company, (Seaboard), and Playa del Rey by The Ohio Oil Company. The only discoveries of importance by California-controlled companies have been Mountain View and Round Mountain; both by independent operators. Without the fields uncovered by invaders from the east, California would now have no proven reserves.

This success has not been due to eastern geologists, for a majority of the personnel employed has been obtained in California. Various factors are involved in the disproportionate finds, and, of course, considerable good fortune must have been involved.

The history of the eastern invasion is well known to me because I was one of the original Milham staff when this subsidiary of eastern interests assembled its California holdings. Of the seniors, Willard Cutler was resident geologist in charge of operations. George Doane was chief paleontologist. Paul Goudkoff was mineralogist, paleontologist, and a little of everything by turns. I was field geologist and general roustabout. What I know, or think I know, about the geology of California goes back to those years of field work from Napa County to the Mexican border.

The old bunch was lucky. Out of four wildcats recommended by the seniors, two, Kettleman Hills and Buttonwillow, were discoveries. Playa del Rey should have been ours also. We tried to drill in the present high-production area, but were unable to do so. The discovery well was later drilled farther north by the Ohio as a result of some fine geological work, but morally, we feel that it should have been Milham's third field.

The extraordinary success of eastern companies is, as stated, to be ascribed in part to good fortune. In part, it may be due to a harder schooling. Native California companies made most of their discoveries on prominent, clear-cut anticlines, and when these became scarce were slow to go to the plains. Eastern companies, trained in the plains type of production, do not hesitate to push out on the flats, this apparently being a factor in their success. A majority of the oil and gas fields discovered by such interests have been in areas which do not have obvious evidence of structure.

Conclusion

The size of the prospective reserve in California is a matter of opinion. Any attempt to approximate this within several billion barrels would be a mere guess. Whatever the actual figure may be, indications are that it is very large. The size of Pliocene and Miocene territory conceded to be highly favorable for prospecting has doubled in the past few years. Eocene areas almost unvalued in old estimates are now being tapped for high initials. The Cretaceous, virtually unprospected, has yielded gas in some of the first basinward tests.

Our former estimates of the prospective reserve were in effect the proved territory with a narrow border thrown in. These must now be revised upward. Not by timidly adding a billion or so barrels to the last inadequate figure, but in the realization that the obviously favorable territory has doubled, that entire other horizons formerly given little weight are now being opened for production, and that still older horizons, previously ignored, are largely untested. In view of the repeated underestimates of the past, and of the damage these have done, there is little excuse for putting forth other estimates with any pretense at accuracy.

I am as guilty as any. In the past I have estimated prospective supply for California, have been chided by others for putting forth such high figures, and then have seen, in three years, more oil discovered than those figures gave all future time. Let us therefore qualify our guesses, for the methods and knowledge of today are not those of tomorrow. The human mind necessarily underestimates the unknown, with the result that any careful calculation tends to be an underestimate.

It is to be repeated that proven reserves, having tangible features, are a different matter, for these may be computed within permissible error. The tendancy is to overestimate present, and underestimate future supply.

The proven reserve of California, the only one concretely evidenced, is meager, and the current high potential deceptive. Some 225,000,000 barrels of new discovery is needed annually to maintain a safe margin, starting now. With the townlot era declining, and future discovery indicated to be chiefly that of spaced fields, there seems little danger of uncovering too much oil. Large operators have an instinct for salting away huge proven tracts against future needs, and welcome the opportunity to do this. When wells can regularly be drilled to depths of 12,000 or 13,000 feet, townlot troubles may reappear. Routine completions at these depths are unlikely for some time.

California is indicated to have large prospective reserves, but discoveries usually come in cycles. To uncover nearly a quarter of a billion barrels of petroleum a year means unrelenting activity.

Part I of this series of two articles on "Oil Reserves of California," by J. Edmund Eaton, appeared in THE OIL WEEKLY *July 1, 1935.*—EDITOR.

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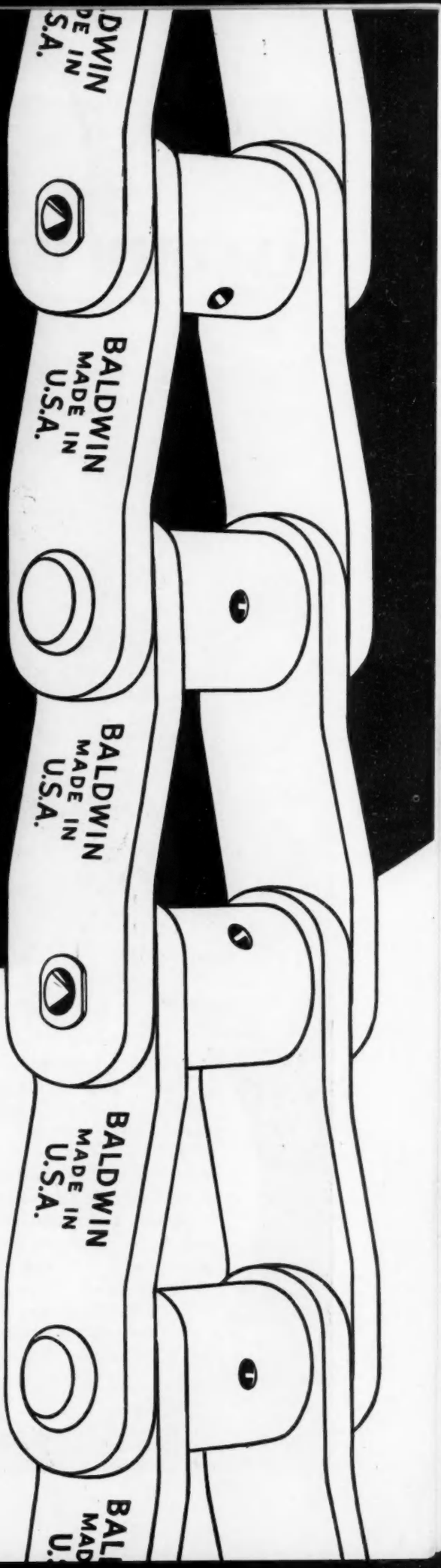

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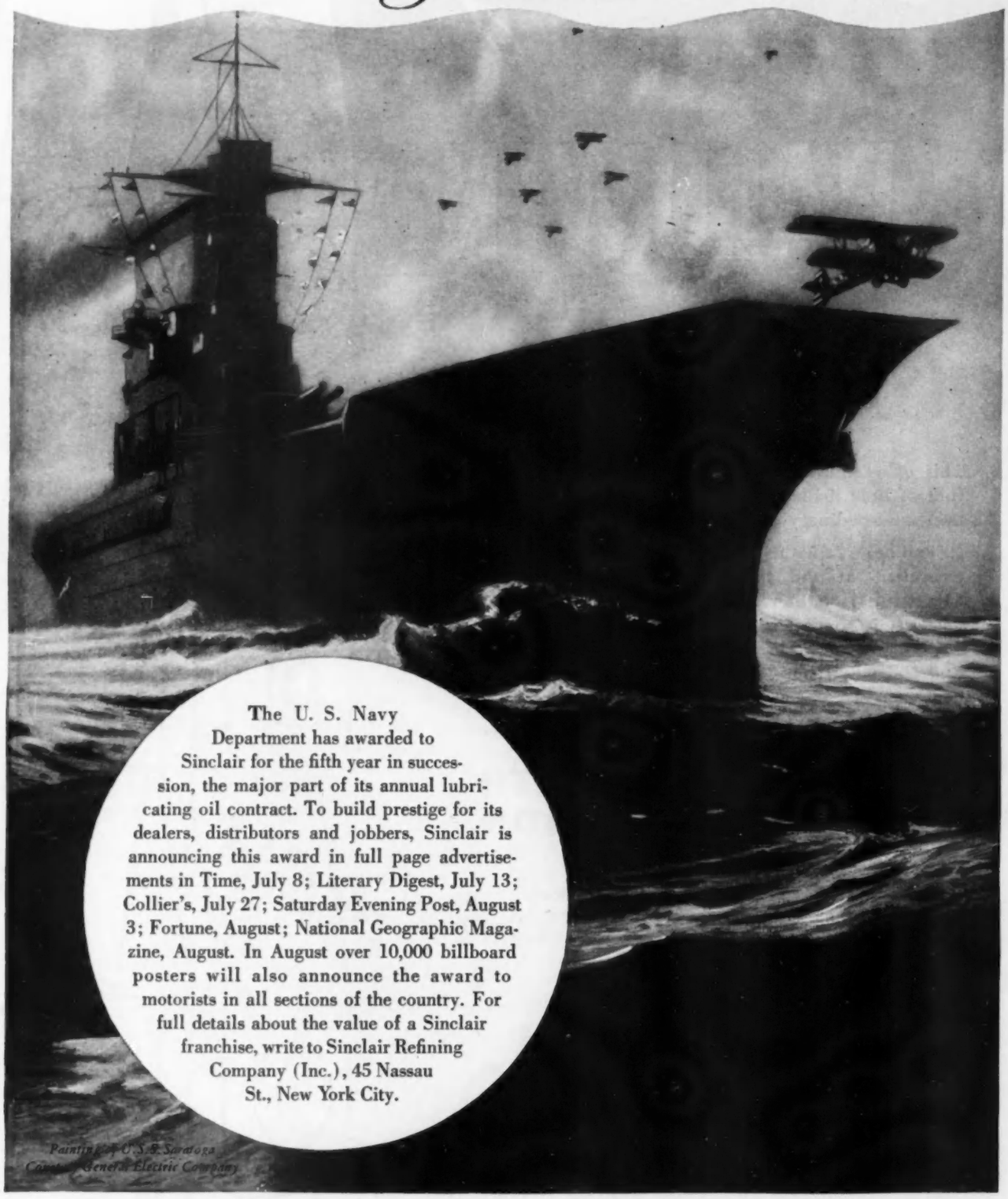


The U. S. Navy Department has awarded to Sinclair for the fifth year in succession, the major part of its annual lubricating oil contract. To build prestige for its dealers, distributors and jobbers, Sinclair is announcing this award in full page advertisements in Time, July 8; Literary Digest, July 13; Collier's, July 27; Saturday Evening Post, August 3; Fortune, August; National Geographic Magazine, August. In August over 10,000 billboard posters will also announce the award to motorists in all sections of the country. For full details about the value of a Sinclair franchise, write to Sinclair Refining Company (Inc.), 45 Nassau St., New York City.

Painting of U. S. S. Saratoga
Courtesy General Electric Company

Markets Unsettled

MID-CONTINENT DISTURBED BY TEXAS CRUDE PRICE CUT

THE oil industry's markets appeared to assume a less sombre hue late last week, after a local crude price cut in Texas had generated considerable anxiety regarding the general Mid-Continent market. California still had depressed service station postings during the week, and the threat of lower crude prices remained, but the crude postings were being maintained through earnest efforts of producers to succeed in their voluntary proration plan.

After Humble Oil & Refining Company had cut its postings five cents a barrel on the crudes of several South Texas fields, June 29, other purchasers made similar reductions July 1, 2, and 3. At first some fear was expressed that prices would be cut also at Conroe, throughout the Texas-Louisiana Gulf Coast, and in West Texas; while there was also some uneasiness for the markets of the upper Mid-Continent.

It developed, however, that the South Texas cutting was primarily a remedy for a rather local situation. The South Texas fields yield low gravity crude, which is refined primarily into lubricants and burning oils. The supply has been relatively high, with numerous flush fields being ushered in, and in the meantime, the demand for such oils is on the decline, due to the seasonal factor. Thus there was an oversupply, and storage and pipe line facilities were being taxed. Meanwhile, the Texas Railroad Commission had not reduced allowables to conform with the smaller demand. On July 3, however, following the price reductions, the commission did revise July allowables downward for the fields involved.

Crude Market Situation

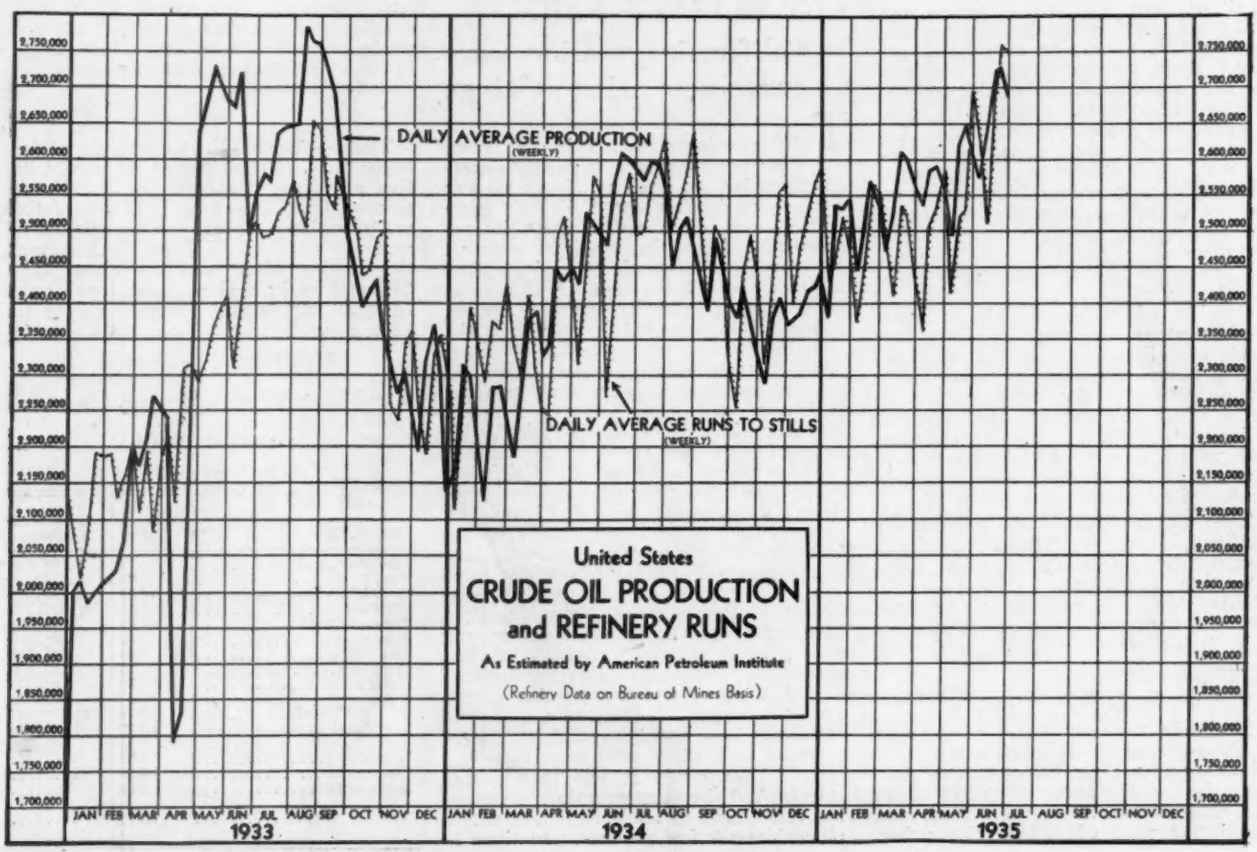
Although the South Texas reductions appeared, therefore, to have no great significance, with respect to the general Mid-Continent market, some anxiety was lingering on in the latter part of the past week. There is a substantial volume of hot oil production and refining in East Texas, the output having increased some in recent weeks, until it has been averaging around 30,000 barrels daily the past two weeks. Meanwhile, Louisiana Gulf Coast production has continued to increase, tending to create a surplus for the whole Louisiana-Texas Gulf Coast. The relatively high Louisiana coastal production is understood, incidentally, to have aggravated the surplus in South Texas, that led to last week's price cut.

Out of Tulsa have come reports to the effect Oklahoma and Kansas concerns with production in the northwest Texas Panhandle have been informed that Humble Oil & Refining Company plans to cancel connections in that area soon, and that The Texas Company, another large purchaser in the district, declines to take on any new connections.

Market observers of the Mid-Continent are wondering, meanwhile how long the present situation in California can continue without having a direct effect on the whole market structure.

Excesses in Three States

The crude oil markets are thus shown to be somewhat weak in at least three of the five leading oil pro-



ducing states: California, Texas, and Louisiana.

The South Texas reductions have served as a warning that production must be kept in line with market demand, if crude prices are to be maintained. And there is some feeling that similar price reducing may be expected summarily in any instances where surplus production reaches substantial proportions. While this fear of price cuts is an unsettling factor in the market situation, it will possibly be effective in causing state oil control authorities and producers to strive earnestly to balance production with consumption.

The reductions for the several South Texas fields began when Humble Oil & Refining Company, June 29, cut Mirando crude from 80 to 75 cents, and Saxet and Refugio heavy crudes from 85 to 80 cents a barrel. The Texas Company followed suit July 1 by cutting Duval County crude (same as Mirando) from 80 to 75 cents, and Saxet and Greta crudes from 85 to 80 cents. By July 3, the five-cent cut had been met also by Magnolia Petroleum Company, Sun Oil Company, and the Atlantic, in the mentioned fields where they buy.

Product Prices About Same

Despite the disturbed state of the crude oil markets, the wholesale and retail markets for refined products continued mostly unchanged from the previous week's levels. The sustained product prices tended to allay the fears that were being entertained over the crude market situation.

In Southern California there was further weakening of the retail gasoline market, as major companies reduced their service station postings one cent a gallon, bringing third grade down to 12½ cents. Meanwhile, some independents were selling gasoline for as little as nine cents a gallon, including the four cents in taxes. The determined efforts to hold crude production down are causing hope that the gasoline prices may soon show some improvement. In the latter part of June, the producers had fair success in curbing their output.

Outside of California, there were no important changes in prices last week, at refineries or service stations, and postings are comparatively high. An exception is the retail market in parts of Texas, where hot gasoline is being trucked in from East Texas, and where prices are as low as 11 cents a gallon in some instances, including five cents taxes.

The hot gasoline of East Texas is confined, however, within the state, because of ineligibility for tenders and interstate shipment. Consequently, Middle Western and Eastern retail markets continue comparatively favorable, being around the year's peak levels.

Tank Car Prices

Similarly, tank car prices of gasoline at Mid-Continent refineries are only slightly under their peaks of the year, set a few weeks ago. They are about the same as in September, 1933, and the latter part of 1930. The prices have remained about the same the past three weeks.

In the Group Three (Oklahoma) region, U. S. Motor gasoline is currently priced about as follows: 4⅝ cents a gallon for third grade, below 62 octane; 5⅛ cents for standard grade, 62-67 octane; and 5⅝ cents for premium grade, 68-70 octane. Corresponding North Texas prices were one-eighth cent lower, on all grades. In East Texas, the similar prices were 4½, 4⅞, and 5¼ cents, on tenderable gasolines. The third grade material that was going out by trucks, without benefit of tenders, was being offered at one-half to one cent less than the going price of tenderable gasoline.

Disturbing Factors

While the gasoline market has remained firm, several disturbing factors apparently must be disposed of before it can take another forward step. Among these is the uncertainty of the tax situation, especially the chain store tax, which is now being imposed in several states. This has required refiners to give greater margins in those states, therefore reducing the refiners' already very low margin of profit.

Kerosene prices have continued on the downward trend, which started several weeks ago. Last week the price had fallen to 3⅛ cents a gallon in East Texas and Group Three area, and to 3½ cents in North Texas. The kerosene market decline has been attributed largely to the seasonal factor.

CUT REFINED PRICE

California gasoline wars cause new price postings

THE petroleum market in California continues to hold steady as to crude posted prices, but the retail gasoline price war grew worse in Southern California early in the week, when major companies reduced the price of their products one cent. This makes third-grade gasoline in Los Angeles and Orange counties 12.5 cents, while regular grade is one cent higher. Ethyl is two cents above regular grade. The new price cut was effective from Santa Barbara south to San Diego. At the two points mentioned, prices are one half cent more than in Los Angeles. Prices are holding in San Joaquin Valley and in the San Francisco area.

Independents in Southern California forced the action from the majors by reducing their retail prices to 9.5 and 12.5 cents, according to brand. Many of the better known independent brands continue to retail at 12.5 cents, which is the same for which the majors are selling third grade. Reports are now being circulated that many small independent refiners say they can not continue to operate at present prices. Close to a dozen small plants are shut down, and many other plants are operating at a reduced rate.

Independent operators and producers are backing a widespread move to refuse to sell their crude at less than posted prices. And the same operators are making real efforts to hold production within allowables. A few producers continue to overproduce. Such companies kept production from being lowered to less than 500,000 barrels a day the last few days of June. On June 29, state production was 504,701 barrels, and on June 30, production was 504,619 barrels. It had been hoped that production would be reduced to at least 490,000 barrels at close of month, but new wells in several fields prevented the realization of this hope.

There seems to be a well defined feeling that production the first half of July will be considerably under the same period in June, and if this proves to be a fact, the producers of the state will escape a crude price cut. The purchasing companies are playing a waiting game, and are giving leaders of the curtailment movement plenty of time to bring overproducing operators into line. Producers in Los Angeles Basin fields are falling into line by increasing numbers, and the one very bad spot is Playa del Rey. Two or three producers in this area are blowing around 20,000,000 to 25,000,000 cubic feet of gas into air, and if this practice is not stopped by end of week, state authorities plan to appeal to the court for an injunction under a present state law which forbids waste of gas.

The fuel oil market is fairly strong. Small refiners can sell their fuel at 65 cents or better. Gas and Diesel engine oils are fairly strong and scarce.

Rumors that a cargo of East Texas gasoline is to be unloaded at Los Angeles Harbor about July 7 is causing no worry. Authorities figure that this East Texas gasoline cannot be unloaded at Los Angeles Harbor at less than 5.5 cents in tanks, and since plenty of gasoline can be purchased in Los Angeles area at four to 4.5 cents, without tax, some one may lose some real money. It is now possible for a tanker to be unloaded at the harbor into independent tankage, while in years past, no independent concern had such facilities.

Tyler.—Alma Oil Company, Oklahoma City, is reported to have sold its five producing leases in the north portion of East Texas, with 20 completed wells making about 450 barrels daily under proration, to John S. Lehman, St. Louis, Mo., and associates for $275,000 cash, and an additional sum of $228,500 payable from one-fourth of the production.

East Texas Tank Car Shipments

Week Ending June 30, 1935

PRODUCTS	No. Cars	Estimated Gallons
Gasoline	632	5,138,390
Fuel Oil	255	2,434,045
Casinghead Gasoline	207	1,758,118
Distillate	101	817,210
Topped Crude	68	644,861
Kerosene	48	385,389
Gas Oil	40	331,601
Naphtha	13	103,288
Residuum	10	81,125
Total	1,374	11,694,027
Total Previous Week	1,149	9,652,926
Interstate	603	.....
Coastwise	421	.....
Intrastate	350	.....
Total	1,374	.....

PRODUCTION STEADY

United States output is 2,676,575 barrels day

UNITED STATES crude oil production last week, ending July 6, was virtually the same as in the previous week, having averaged 2,676,575 barrels daily. That was 1600 barrels per day more than in the preceding seven-day period. It was about 25,000 barrels per day more than the daily output that was recommended by the federal government for June.

Analysis of the figures by states shows reasonably successful results throughout the country in restricting production, most of the states having followed trends similar to those previously under the oil code. California output for the week averaged 547,000 barrels daily, a gain of 22,000 barrels over the previous week's average. The new figure reflects the usual upward trend of production at the beginning of each month. In June the state's output rose precipitately in the first half of the month, and while it declined subsequently, the month's production exceeded the federal allocation. It is hoped that in July the production will be better controlled, as there has been tightening of the voluntary proration plan which has replaced N.R.A.

Texas production last week averaged 1,066,700 barrels daily, or about 9000 barrels per day more than in the previous week, although only about 8000 barrels daily above the state's June allocation. For next week, Texas is expected to show a decline, due to downward revised allowables in some fields.

Oklahoma production last week averaged 491,575 barrels daily, having declined approximately 30,000 barrels from the previous week's average. The new figure reflected the June month-end sharp curtailment of output in the state, in compensation for production above allowables earlier in the month. The Oklahoma quota for June was 514,200 barrels daily.

Kansas output of 145,200 barrels daily last week was 2300 barrels a day less than in the previous week, and about 9000 barrels per day less than the June allocation to the state by the federal government.

Louisiana last week averaged 140,200 barrels daily, which was about 2000 barrels per day more than in the preceding week, and 8000 barrels daily more than the June quota for the state.

The above figures do not include any estimate for surreptitious production. Such output, chiefly in East Texas, was indicated to be averaging about the same as in the previous week, which was around 30,000 barrels daily.

TO BUILD REFINERY

San Antonio.—G. L. Rowsey plans the erection of a 5000-barrel refinery at Point Isabel, on the Gulf Coast of Texas. It will receive crude oil through an 85-mile pipe line that is to be built from the Samfordyce field by Weekley Oil Corporation.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	BARRELS DAILY FOR WEEK ENDING July 6	June 29
TEXAS—		
Texas Panhandle	60,500	60,200
North Texas	59,150	59,100
West Central Texas	25,550	25,500
West Texas	153,700	154,200
East Central Texas	50,100	49,600
*East Texas Field	469,500	466,400
South Texas	63,100	59,500
Texas Gulf Coast	185,100	182,900
*Total Texas	1,066,700	1,057,400
OKLAHOMA—		
Oklahoma City	137,075	157,225
Seminole Area	125,227	129,225
Tatums	5,000	4,975
Lucien	10,275	11,925
Fitts	16,925	20,125
Others	197,073	197,700
Total Oklahoma	491,575	521,175
KANSAS—		
Ritz-Canton	8,050	7,350
Voshell	4,200	4,075
Nikkel-Hollow	7,475	7,375
Sedgwick	8,950	8,725
Burrton-Haury	22,650	23,375
Others	93,875	96,600
Total Kansas	145,200	147,500
LOUISIANA—		
North Louisiana	22,700	22,500
Louisiana Gulf Coast	117,500	115,800
Total Louisiana	140,200	138,300
ARKANSAS	31,000	30,900
CALIFORNIA—		
Long Beach	74,000	72,500
Santa Fe Springs	38,500	36,000
Huntington Beach	41,500	38,000
Dominguez	21,500	20,000
Inglewood	11,500	11,000
Ventura Avenue	28,500	29,500
Seal Beach	7,000	7,000
Midway-Sunset	54,500	50,500
Elwood	15,000	13,500
Kettleman Hills	60,000	62,500
Mountain View	21,500	20,000
Playa del Rey	23,000	22,000
Others	150,500	142,500
Total California	547,000	525,000
MOUNTAIN STATES—		
Wyoming	38,800	38,900
Montana	10,200	10,300
Colorado	4,100	4,100
Total Rocky Mountain States	53,100	53,300
NEW MEXICO	52,800	53,200
EASTERN STATES	105,800	105,100
MICHIGAN	43,200	43,100
*Total United States	2,676,575	2,674,975
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	30,000	30,000
Grand Total, including surreptitious production	2,706,575	2,704,975

Crude Runs to Stills; Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks, and Cracked Gasoline Production, Week Ended June 29, 1935

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(a) Stocks of Unfinished Gasoline	(b) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term. in Trans. & Pipe Lines	Total at Refys., Term., etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	612	612	100.0	481	78.6	5,852	10,187	16,039	790	260	11,084	534	469	87.8	81
Appalachian	154	146	94.8	113	77.4	1,276	939	2,215	318	145	771	79	78	98.7	21
Ind., Ill., Ky.	442	424	95.9	374	88.2	5,689	3,411	9,100	766	55	4,672	349	338	96.8	127
Okla., Kans., Mo.	453	384	84.8	292	76.0	2,944	2,293	5,237	646	545	4,387	256	228	89.1	70
Inland Texas	330	160	48.5	109	68.1	1,060	111	1,171	270	1,325	1,920	148	105	70.9	25
Texas Gulf	617	595	96.4	527	88.6	4,830	297	5,127	1,886	295	10,145	399	393	98.5	111
Louisiana Gulf	169	163	96.4	115	70.6	639	549	1,188	253	.....	3,804	77	74	96.1	20
North La.—Ark.	80	72	90.0	56	77.8	187	81	268	40	90	380	46	44	95.7	8
Rocky Mountain	97	60	61.9	49	81.7	917	.....	917	106	55	804	46	39	84.8	14
California	852	789	92.6	485	61.5	7,024	1,721	8,745	1,023	3,015	63,851	274	274	100.0	58
TOTALS WEEK: June 29, 1935	3,806	3,405	89.5	2,601	76.4	30,418	19,589	50,007	6,098	5,785	101,818	2,208	2,042	92.5	535
June 22, 1935	3,806	3,405	89.5	2,606	76.5	30,835	19,290	50,125	6,185	5,700	101,693	2,208	2,042	92.5	534

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week June 29, 1935 compared with June 1934 Bureau figures.

Estimate B. of M. Basis June 29, 1935	2,750		585
Estimate B. of M. Basis June 22, 1935	2,755		585
U. S. B. of M. June, 1934: Daily Average Crude Runs	2,535	U. S. B. of M. June, 1934: Daily Average Cracked Prod.	489

(a) Amount of Unfinished Gasoline contained in Naphtha Distillates.
(b) Estimated. Includes Unblended Natural Gasoline at refineries and plants; also Blended Motor Fuel at plants.

PLANTS ACTIVE

East Texas excess output continues at high rate

Accounted for excess production in the East Texas field continues at rates estimated at from 25,000 to 30,000 barrels daily, with the increased activity of independent refiners largely due to their processing of crude and semi-refined products converted into a legal status after being confiscated by the state and re-sold to the original holder. Charges to stills by field plants increased to 63,300 barrels daily the past week, with the independent units handling about 30,000 barrels daily of legally produced crude direct from the wells.

Price range of from three to five cents per gallon prevails on gasoline manufactured by the East Texas plants. The top price is obtained by a few units having cracking equipment capable of turning out a 65 octane rating motor fuel that is marketed at a premium in Chicago territory, while the three-cent sales were reported from a few of the plants operating on untendered products and selling to tank truck dealers. Majors continue to pay 4⅝ cents per gallon for 400 end point gasoline carrying approved state and federal tenders, although some of the excess production of equal qualifications is being sold at a lower price to independent jobbers outside the state. Gasoline sales by plants for delivery via trucks are approaching a peak level for the year, having amounted to more than 2,800,000 gallons during the week ending July 1, with prices varying from 3 to 3½ cents per gallon. Many such sales are derived from crude of a questionable source, and will not pass muster before the federal tender board, thus making it necessary to sell within the state, except for a few deliveries via truck to points in Louisiana and Oklahoma.

PROPERTIES BOUGHT

Producing leases in East Texas bring $850,000

Shreveport.—R. G. Trippet and A. H. Meadows of Shreveport, Thursday, announced closing of contract for purchase of oil, the properties of Yandell Rogers Oil Company of Tyler, located in Daniel Clark Survey east of Overton in the East Texas field for a consideration of $850,000, of which $225,000 was cash. The purchase, made for Hurtle Oil Company, of which Trippet and Meadows are the heads, includes 440 productive acres with 16 producing wells and 45 drilling locations. Pending examination of titles by purchasers' attorneys the properties will be operated by Yandell Rogers Company and Rozel Oil Corporation. Title is expected to be passed about July 15. This purchase follows closely Trippet and Meadows acquiring part of the Cranfill and Germany properties in the Texas field, which involved approximately $1,000,000.

FILE SEIZURE SUIT

26,365 barrels sought by State of Texas in case

Austin, Texas.—Attorney General McCraw has filed suit in 98th District Court, seeking to confiscate 26,365 barrels of "waste" oil held by C. A. Davenport and H. W. McCurley.

The defendants had previously filed suit seeking to force the Railroad Commission to issue a tender on the oil, but after a hearing this application was denied.

In the suit filed by the state the attorney general requested that a receiver for the oil be appointed pending determination of its legal status.

Comparison of Permits Granted for New Wells

STATE—	Week Ending June 29	Total this Mo.	Total this Year	Total this Date Last Year	1934 Year Total
Arkansas.	1	2	17	30	100
California.	26	100	472	262	629
Louisiana.	18	92	411	411	799
Kansas...	34	138	515	491	1,015
Michigan.	9	57	247	238	460
Oklahoma	42	251	1,116	1,087	2,045
Texas....	241	1,427	5,494	5,223	10,550
Total..	371	2,067	8,271	7,742	15,598

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to July 5, 1935)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$ .84	2¢	40—$1.08	9-29-33
N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
Texas Panhandle				
Gray County	34— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Ector, Pecos, Wk'lr	*.75			9-29-33
Crane, Upton, Howard and Glasscock	*.70			9-29-33
East Texas	*1.00			9-29-33
Texas Gulf Coast				
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-29-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 20— .82	2¢	34— 1.12	9-29-33
South and S.W. Texas	Below			
Refugio (Light)	20— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	*.80			6-29-35
Saxet	*.80			6-29-35
Mirando	*.75			6-29-35
Pettus	*1.05			9-29-33
Salt Flat	*.87			9-29-33
Darst Creek	*.87			9-29-33
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	40— 1.03	3-17-34
El Dorado East Field and Smackover	*.70			9-29-33
North Louisiana	29— .79	2¢	40— 1.08	9-29-33
Urania	*.85-*.87			1- 1-34
South Louisiana	Below			
Lockport	20— .80	2¢	34— 1.10	9-29-33
Iowa, Cameron Mds.	Below 20— .70	2¢	34— 1.00	9-29-33
Rocky Mountain States				
Salt Creek	29— .84	2¢	40— 1.08	9-29-33
Elk Basin	*1.17			9-29-33

*All gravities—flat rate.
†Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Grass Creek (Light)	*$1.17			9-29-33
Big Muddy	*1.01			9-29-33
Rock Creek	*1.02			9-29-33
Sunburst	*1.35			9-29-33
Lance Creek	*1.02			8-25-33
Osage	*.62			8-25-33
Cat Creek	*.45			8-25-33
Pondera	*.65			8-25-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.15			2- 1-35
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.13			5-22-35
California				
Signal Hill	14— .65	1¢	16— .66	9- 6-33
	17— .69	2¢	22— .84	9- 6-33
	23— .88	3¢	30— 1.09	9- 6-33
Seal B., Alamitos Hts.	19— .65	3¢	20— .68	9- 6-33
	21— .72	4¢	22— .76	9- 6-33
	23— .81	4¢	26— .93	9- 6-33
	27— .98	4¢	30— 1.10	9- 6-33
Huntington Beach	14— .65	4¢	15— .69	9- 6-33
	16— .72	3¢	19— .81	9- 6-33
	20— .83	3¢	28— 1.07	9- 6-33
	29— 1.09	3¢	30— 1.12	9- 6-33
Inglewood	14— .65	4¢	16— .73	9- 6-33
	17— .76	4¢	18— .80	9- 6-33
	19— .82	4¢	20— .87	9- 6-33
	21— .90	4¢	22— .94	9- 6-33
	23— .97	4¢	24— 1.01	9- 6-33
Playa del Rey	14— .65	1¢	15— .66	9- 6-33
	16— .69	4¢	17— .73	9- 6-33
	18— .76	4¢	19— .80	9- 6-33
	20— .83	4¢	21— .87	9- 6-33
	22— .90	4¢	23— .94	9- 6-33
	24— .97	3¢	25— 1.00	9- 6-33
			26— 1.04	9- 6-33
Olinda-Brea Canyon	14— .65	4¢	16— .73	9- 6-33
	17— .76	3¢	28— 1.10	9- 6-33
Athens-Rosecrans Domingues	23— .83	3¢	24— .86	9- 6-33
	25— .90	4¢	26— .94	9- 6-33
	27— .97	3¢	29— 1.04	9- 6-33
	30— 1.08	4¢	31— 1.12	9- 6-33
			32— 1.15	9- 6-33
Elwood (fob ship)	33— 1.03	3¢	37— 1.15	9- 6-33
Torrance	14— .65	1¢	15— .66	9- 6-33
	16— .69	3¢	20— .81	9- 6-33
	21— .83	3¢	26— .98	9- 6-33

*All gravities—flat rate.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Richfield	15—$ .65	2¢	16—$ .67	9- 6-33
	17— .70	4¢	20— .82	9- 6-33
	21— .85	4¢	22— .89	9- 6-33
	23— .93	4¢	24— .97	9- 6-33
	25— 1.00	4¢	27— 1.08	9- 6-33
	28— 1.11	4¢	29— 1.15	9- 6-33
Whittier-LaHabra	15— .65	3¢	18— .74	9- 6-33
	19— .78	3¢	24— .93	9- 6-33
Montebello	19— .65	1¢	20— .66	9- 6-33
	21— .69	3¢	22— .72	9- 6-33
	23— .76	4¢	24— .80	9- 6-33
	25— .85	4¢	26— .89	9- 6-33
Coyote Hills	16— .65	3¢	19— .74	9- 6-33
	20— .78	3¢	29— 1.05	9- 6-33
	30— 1.09	3¢	34— 1.21	9- 6-33
Santa Fe Springs	21— .72	4¢	22— .76	9- 6-33
	23— .79	4¢	25— .87	9- 6-33
	26— .90	4¢	28— .98	9- 6-33
	29— 1.01	4¢	30— 1.05	9- 6-33
	31— 1.08	4¢	33— 1.16	9- 6-33
	34— 1.19	4¢	35— 1.23	9- 6-33
	36— 1.26	4¢	38— 1.34	9- 6-33
New Hall, McKittrick, Kern River	14— .57		19— .57	9- 6-33
Midway-Sunset, Elk Hills, Buena Vista Hills	17— .57	4¢	18— .61	9- 6-33
	19— .64	3¢	22— .73	9- 6-33
	23— .77	4¢	33— 1.17	9- 6-33
Lost Hills	17— .57	4¢	21— .73	9- 6-33
	22— .76	3¢	30— 1.00	9- 6-33
Coalinga	17— .57	1¢	18— .58	9- 6-33
	19— .62	3¢	21— .68	9- 6-33
	22— .72	3¢	25— .81	9- 6-33
Wheeler Ridge	17— .57	1¢	18— .58	9- 6-33
	19— .61	3¢	25— .79	9- 6-33
Kettleman Hills	33— .93	3¢	39— 1.11	9- 3-33
Pennsylvania				
Bradford	*2.05			6-26-35
Sw Pa. Pipe Line	*1.77			6-26-35
Eureka Pipe Line	*1.72			6-26-35
Buckeye Pipe Line	*1.62			6-26-35
Corning Grade	*1.32			10- 2-33
Michigan				
Central Michigan	*1.20			9-30-33
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

*All gravities—flat rate.

Summary of Wells Completed in the United States

Week Ending June 29, 1935

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1935	Total Completions this date 1934
Alabama	...	...	...	...	.....	3	2
Arkansas	3	1	...	2	90	85	33
California	24	21	2	1	26,185	399	189
Colorado	...	...	...	...	.....	6	8
Illinois	1	1	...	...	10	9	8
Indiana	...	...	...	...	.....	92	83
Kansas	28	20	...	8	12,210	685	417
Kentucky	...	...	...	...	.....	73	61
Louisiana	17	8	3	6	1,390	374	348
Michigan	8	4	...	4	355	219	225
Mississippi	...	...	...	...	.....	12	15
Montana	5	5	...	...	130	56	61
New Mexico	5	3	...	2	9,575	138	45
New York	...	...	...	...	.....	...	4
Ohio	37	16	11	10	325	696	470
Oklahoma	38	19	3	16	63,170	1,154	993
Pennsylvania	...	...	...	...	.....	70	160
Texas	287	215	5	67	667,705	5,950	4,773
Utah	...	...	...	...	.....	...	3
West Virginia	...	...	...	...	.....	240	212
Wyoming	...	...	...	...	.....	28	22
Total this week	453	313	24	116	781,145	10,290	8,139
Total last week	399	265	27	107	864,910	9,837	...
Total this year	10,290	6,783	870	2,647	19,180,965	...	...

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid-Cont. (36 Gr.)	Calif. (26 Gr.)
March 5, 1933	.....	.....	Cut 24.
May 2, 1933	.....	Cut 19.	.....
May 9, 1933	Cut 20	.....	.....
May 22, 1933	Up 10.	.....	.....
June 19, 1933	Up 10.	Up 19.	.....
June 26, 1933	Up 10.	.....	Up 9-12
July 6, 1933	Up 12.	Up 10.	.....
July 17, 1933	Up 15.	.....	.....
July 28, 1933	Up 15.	.....	.....
August 11, 1933	Up 10.	.....	.....
August 24, 1933	.....	Up 10.	.....
August 30, 1933	Up 15.	.....	.....
September 6, 1933	Up 10.	Up 10.	Up 15.
September 8, 1933	.....	Up 15.	.....
May 1, 1934	Up 10.	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25.	.....	.....
January 4, 1935	Up 15.	.....	.....
February 4, 1935	Up 15.	.....	.....
May 16, 1935	Cut 15.	.....	.....
June 26, 1935	Cut 15.	.....	.....

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Three percent of gross value at well and ½-cent per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

Know your Ropes

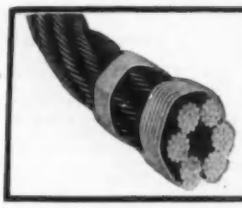
...This is a helpful hint, how to make wire rope last longer. Subsequent Wickwire Spencer advertisements in this publication will give other dollar-saving information. Tell us about your rope problem and we will give you the answer.

It's poor and often a dangerous practice to pick up old lead pipe or purloin babbitt metal from the tool room with which to mould rope end into the socket. The loss of strength is appreciable. Only pure zinc poured at the *correct* temperature makes a terminal that is as strong as the rope itself. United States Government specifications recognized this fact and permit only new pure zinc used in socketing. Write today and request "Safety Hints About Terminals." Don't waste your rope's strength!

•

WICKWIRE SPENCER STEEL CO., New York City; Buffalo, Chicago, Worcester; *Pacific Coast Headquarters:* San Francisco; *Warehouses:* Portland, Los Angeles, Seattle. *Export Sales Dept.,* New York City.

WIRE ROPE
by Wickwire Spencer



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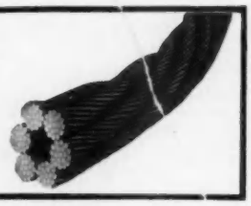
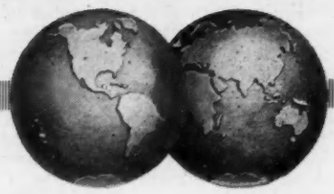
Wickwire Spencer manufactures all sizes and types of Wire Rope in standard lays and preformed. Wisscolay preformed wire rope will often solve a wire rope application difficulty. Ask our engineers where and when it should be used. Send for a free WIRE ROPE BOOK. It will prove of great value.



WORLD DEVELOPMENTS and TECHNOLOGY



Edited by
WM. V. GROSS, Associate Editor

Trinidad Denied

BRITISH PREFERENCE FOR PETROLEUM PRODUCTION

Trinidad, B. W. I., has now heard definitely that the home government has declared itself as being unable to grant British preferential treatment of empire-produced oils as advocated by the deputation from Trinidad which visited England for this purpose in 1934.

This intimation has come after several months of waiting without any real indication as to what direction the tide of events in this connection would take. Granting such a preference has so many sound arguments in its favor that it surely must have been appreciative by all who would desire to see a furtherance of inter-imperial trade, Trinidad operators feel. One of them writes:

"On the merits of the resolution alone, it was difficult to forsee that the application would have been refused. So far, however, no statement has been made public as to the reason or reasons for non-favorable entertainment of the proposal.

"Inasmuch as Trinidad already grants a generous amount of preferential treatment to the empire on all goods, the colony expected that it was only necessary to make representations in the proper quarter in order to receive reciprocal British benefit for her petroleum which is the principal export industry of the colony."

It has been hinted in certain quarters that some objection might have originated in England on the grounds of interference with the state policy of encouraging the development of coal-oils, but it is difficult to see where such an argument can reasonably find root.

Paraffin wax from British India already enjoys a fiscal preference; so that the acceptance of the Trinidad resolution could not be exactly regarded in the nature of a precedent.

Other points in favor of the preference are brought out in the letter:

"There are several other points which still weigh heavily in favor of the proposal . . . such as the unqualified advantages of reliable petroleum resources within the empire in relation to the question of national defence, and the consequent necessity for encouraging wider development of the oil fields within the British empire.

"Finally, when it is considered that Great Britain had pledged herself to the accepted principles of reciprocity which were agreed at the Ottawa conference, it is difficult to guess why she should so decidedly discard this opportunity of keeping faith with the principles of this agreement from which the mother country already derives great benefit."

AUSTRALIA

Queensland wildcat test has small flow of gas

Oil Search Limited has completed a wildcat at Warooby Creek, State of Queensland, Australia, for an initial production gauged at 650,000 cubic feet of gas per day. The gas contains about 1.5 pints of gasoline per 1000 cubic feet.

Although of little importance in America, such a well in Australia has much significance. It is probably, according to Dale Condit, chief geologist of Gas Drillers Limited, the first test drilled in the Roma district based on modern geology.

On another Australian structure, 34 miles west of Sydney, New South Wales, Gas Drillers Limited is drilling a wildcat with hopes of uncovering a field which eventually will supply Sydney, a city of 1½ million people, with natural gas. A recent geological survey disclosed several structures in this district, which is known as Mulgoa dome district.

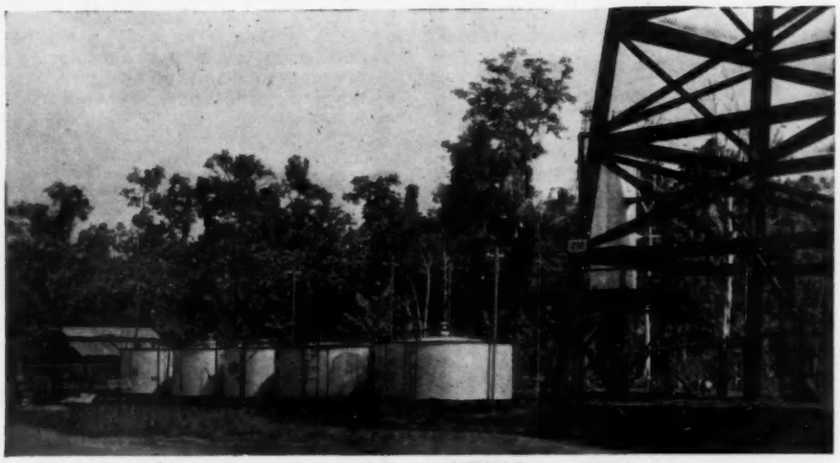
CHINA DELIBERATE

Government moving toward national supply

By October of this year the ministry of industry of the Republic of China may be in a position to announce definite locations for government supervised wildcat wells as a result of a geological survey being conducted in Szechuan and Shensi.

The "Four Year Plan" offered by the ministry of industry in October, 1934, contemplated devoting the first year to the geological survey, devoting the second year to purchase and transportation of drilling machinery to the sites chosen for wells, and devoting the third and fourth years of the plan to a drilling campaign calling for completion of 500 shallow wells.

Chinese technicians are of the opinion that if the third and fourth years of the plan can be carried out success-



Tank Battery in Trinidad

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Drop Forged Steel Crosses In Four Combinations

Designed Especially for Oil Field Service

No matter how you figure on building your Christmas Tree you have a complete choice of Kerotest genuine Drop Forged Crosses to meet every hookup requirement from 2" to 4" inclusive all with fully-formed, accurate, clean-cut threads for working pressures up to 3,000 lbs. P. S. I.

These Crosses are forged of heat treated alloy steel insuring the utmost in strength and dependability and are furnished in combinations of 4 male . . . 3 male and 1 female . . . 2 male and 2 female . . . 1 male and 3 female outlets. Bulletin No. 115 gives you the complete data—send for a copy.

KEROTEST
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Pittsburgh, Pa.

KEROTEST

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fully, 80 million gallons of oil can be produced, representing 25 percent of the oil now imported into China.

Preliminary to the conclusion of the first year of the plan five drilling machines were purchased and sent to Yenchang to begin a program calling for 30 tests during 1935 and 1936.

The above plans are part of China's program of national industrialization which has, among other things, brought forth an unprecedented schedule of railroad and highway construction, as well as the inauguration of many commercial air routes.

RUSSIAN KEROSENE

Movement through Suez shows substantial gain

A letter from Frederick S. Barney of Port Said, Egypt, reveals that 80 percent of Russia's total export trade through the Suez Canal is kerosene. In 1926 this commodity represented only 9.6 percent of the Soviets' export trade through the canal. The present trend is a continuation of this increase.

In 1925 the kerosene shipments amounted to only 31,000 deadweight tons. By 1933 the kerosene exports had multiplied more than 15-fold to the total of 487,000 deadweight tons. U.S.S.R.'s kerosene exports in 1934 reached the 508,000 deadweight ton mark.

Kerosene from Soviet Russia is generally bound for British Indian ports, Vladivostok, Durban, Natal, Shanghai, and Red Sea ports.

POLAND

Production decline spurs wildcat exploration work

Production of crude oil in Poland continues to decline, the 126,000 ton total for the first three months of this year averaging 42,000 tons per month as against 44,000 tons per month for the first three months of 1934. During 1933 the average monthly production of crude oil in Poland was 46,000 tons.

In recognition of the above condition, Polish drilling activities during the last year have been characterized by a more or less desperate search for new reserves, even to the extent of a common practice of pooling funds for drilling of wildcats.

RUSSIAN RECORD

Turkyanakh 2 of the Apsheron group of U. S. S. R. has broken the Russian record for depth, having reached 2125 meters (6,970 feet). The well is still drilling.

Prior to drilling Turkyanakh 2, the depth record for Russia was held by a well in the Novo Krestyansky field drilled by Grozneft. This latter well went to 2070 meters (6,789.6 feet).

Incidentally, drilling conditions in Turkyanakh 2 have been very difficult owing to excessive faulting.

CANADA DECLINING

Crude output and imports drop during April

Crude petroleum production in Canada during April amounted to 113,685 barrels as compared with 120,537 barrels in the preceding month and 118,890 barrels in April, 1934, according to a statement just issued by the Dominion Bureau of Statistics at Ottawa. Production during the first four months of 1935 totaled 470,421 barrels or four percent below the output in the corresponding months of 1934.

Alberta operators reported an output of 99,850 barrels of petroleum in April. This production consisted of 94,670 barrels of crude naphtha and 1861 barrels of light crude oil from the Turner Valley field, 2046 barrels of light crude oil from the Red Coulee field, 803 barrels of heavy crude oil from the Wainwright field and 470 barrels of heavy crude oil from the Skiff field.

Exports of petroleum and its products from Canada declined in value to $11,166 in April from the preceding month's valuation of $16,602.

The value of petroleum, asphalt and their products imported into Canada in April was recorded at $1,734,012 as compared with $2,118,967 in the previous month. The United States contributed 86.5 percent of the April importations; Peru, 12.6 percent; and India, Germany, Great Britain, France and Belgium, the remainder. Crude petroleum imports in April declined to 40,446,492 gallons from the March total of 43,646,874 gallons. The April receipts of crude petroleum included 33,098,418 gallons from the United States and 7,348,074 gallons from Peru.

Production of Petroleum in Canada, By Months, 1933-1935

Month	BARRELS		
	1935(a)	1934(a)	1933
January	124,654	124,425	82,792
February	111,545	116,546	73,101
March	120,537	130,046	87,241
April	113,685	118,890	84,989
Total—Calender Year	.....	1,418,811	1,162,541
Total—Four months, ending April	470,421	489,907	328,123

(a)Subject to revision.

URUGUAY

The Chamber of Deputies of Uruguay, South America, has approved an issue of bonds for construction of an oil refinery for the state-owned Administracion Nacional de Combustibles, Alcohol y Portland.

According to a report received by the Department of Commerce, in Washington, a balance sheet of ANCAP, published March 30, 1935, for the year ending December 31, 1934, showed a bookkeeping gain of 1,658,717.66 pesos. Profits of the ANCAP organization are largely derived from the sale of alcohol.

Spacing Regulations

[*Continued from page 10*]

probable commercially productive limits of a field or pool.

2. When the physical conditions on the surface of the earth render it impracticable, without unreasonable expense, to drill a well at a location in conformity with this rule.

When a well producing oil and/or gas is completed at a location constituting an exception to this rule on account of either of the facts mentioned in such divisions 1 and 2 hereof, and such well is then or thereafter located on a proration unit fixed by the commission, such well shall be deemed to be located in the center of a separately owned tract of an area of four times the product of the distances from the nearest unit lines, and the allowable production from such tract shall be in the ratio prescribed by subdivision 3 hereof.

3. When any separately owned tract is so small or so shaped that it is impossible to drill a well at a location in conformity with this rule.

If a well producing oil and/or gas is completed on any such tract, the allowable production from such tract, as compared with the allowable production therefrom if such tract were a full unit, as fixed by the commission, shall be in the ratio of the area of such tract to the area of a full unit.

Any person having to drill a well as an exception to this rule, shall file with the commission in triplicate an application in writing, fully setting forth all pertinent facts, including particularly the exact location of the proposed wells, the owner of contiguous leases or properties and the ground upon which the applicant is entitled to an exception. To each copy of the application shall be attached a plat, accurately drawn to scale of one inch equals 400 feet, showing the lease or property on which the well is to be drilled, the location of such well, all contiguous leases or properties, all wells on any lesser properties, and any other data pertinent to the purpose of the inquiry. The truth of the facts in such application and plat shall be verified by oath of the applicant or his duly qualified agent.

The commission shall serve notice of such application upon the owners of leases or properties contiguous to the proposed well, as provided in Section 5 of Chapter 72, General Laws of 1935 of the State of New Mexico. Such notice shall briefly state the substance of the application, but in all cases the name of the applicant, the ground upon which exception is sought, and the exact location of the proposed well.

Such notice shall also set the place and time for hearing the application, which shall not be less than ten days after service or publication. No exception shall ever be granted except after public hearing preceded by the notice above specified.

ENGINEERING FUNDS

Ickes wants $546,000 for Bureau of Mines

Washington, D. C.—Allocation of $546,000 of works funds for use of the Bureau of Mines of the Department of the Interior in connection with its work on oil, is sought by Secretary Harold L. Ickes in applications filed July 1 with the Division of Applications and Information of the Works Program.

Three projects are covered by the applications, one of which calls for the allocation of $250,000 for extension of the petroleum experiment station at Bartlesville, Oklahoma.

A second project, for which $181,900 is asked, would embody field engineering studies of the principal oil and gas fields in Wyoming, Montana, Oklahoma, Texas, New Mexico, Louisiana, Arkansas, Kansas and Michigan, to aid in the conservation and economic utilization of oil and gas resources, and the third project, to cost $114,100, would include petroleum and natural gas studies in 31 states to obtain information needed for intelligent conservation.

The Week's News

(*Continued from page 10*)

PRORATION UPHELD

Six suits are confirmed by Texas appeals court

El Paso, Texas.—Texas oil conservation laws and the Texas Railroad Commission's East Texas proration orders were upheld here July 3 by the Eighth Court of Civil Appeals in six suits transferred here from Texarkana. Another suit was reversed and remanded only on the grounds of jurisdiction. The opinions sustained judgments in favor of the state for $15,750 in penalties for alleged production of hot oil.

The six successful suits of the state were those against Skippers Bivins Oil Company, George L. Culver, doing business as Consolidated Refinery, George L. Culver, V. C. L. and W. Refining Company, Inc., L. S. Flannery (affirmed $4000 penalty), George L. Culver (affirmed $600 penalty). The state's suit against Sam Rooth was the one reversed.

In the Bivins case the company attacked validity of proration orders and the conservation law. The court ruled that "statutes to prevent waste of natural resources are within the police power of the state."

EXCESS PRODUCTION

In May from East Texas lower in official audit

Kilgore, Texas.—Accounted for excess production of crude in the East Texas field during May is modestly placed at 225,866 barrels, or a daily average of 7286 barrels, according to official audit. Heretofore the commission's acknowledgement of over-production in an official monthly audit of its records has been accepted as being extremely conservative by operators, having averaged between 17,187 barrels and 20,835 barrels daily earlier in the year.

Allowable production during May amounted to 13,974,287 barrels, or an average of 450,783 barrels daily. The commission's audit reports an increase in fi,eld storage amounting to 86,159 barrels for the month.

OFFSET TEST FIGHT

Tyler.—Major companies in the East Texas field are tapering off their drilling programs and are making preparations to wage an aggressive campaign in the courts to block future unnecessary offset tests that are exceptions to the spacing rules recently upheld by the Supreme Court of Texas. Court costs involved in contesting exceptions to the spacing rules being granted by the Railroad Commission in spite of the higher court ruling are considered nominal in comparison to the expenditure of about $10,000 for each additional well drilled.

Geologists Meeting

MEXICO CITY WILL BE HOST TO GEOLOGIST CONVENTION

San Antonio, Texas.—The San Antonio Section of the American Association of Petroleum Geologists has combined its annual meeting with the mid-year meeting of the American Association of Petroleum Geologists and have selected Mexico City, D. F., Mexico for the convention place. The dates have been denitely set for October 16 and 17.

The dates for the meeting definitely were set at this time for three reasons; first, the rainy season will have been concluded, the unequaled floral beauty of the country will be at its best. Second, the principal tourist season, causing congestion in all hotels, will be over, and there will be little difficulty in obtaining adequate hotel facilities. Third, the highway to Mexico City from Laredo will be completed sometime in July and will be safe for travel before the time of this meeting.

This convention has been designated as a mid-year meeting of the A. A. P. G., and is already receiving the support of the officers and executive committee of that organization. It is being planned and announced well in advance with the idea in mind that many geologists will plan their vacations for this time, and take this trip during their annual vacation period. It is anticipated that wives will accompany nearly all geogolists.

The technical program will be under the direction of Dr. Ezequiel Ordonez, of Mexico City; naturally, it has not been arranged as yet, but the wealth of material at hand will assure a program of unusual interest. Usually, about eight papers are presented at the annual meeting of the San Antonio Geological Society; it is contemplated that most of these papers will be on the geology of various parts of Mexico, with an attempt to correlate the geology of Northern Mexico with that of Southwest Texas.

Active support of this convention is being given by the Petroleum Institute of Mexico, and by the various

companies and geologists located there. Many Mexican geologists, under the capable leadership of Dr. Ordonez, are co-operating in an effort to make the meeting a success.

Bill Kane, at Saltillo, Mexico, is in charge of transportation and arrangements, and Philip Schoeneck at Laredo, and Bill Spice at San Antonio, are on this committee. Any information desired may be secured from these parties, or from any member of the San Antonio Geological Society.

It is necessary to know as soon as possible approximately how many members will attend, hence it is advisable to write to Adolf Dovre, secretary, S. A. G. S., Milam Bldg., San Antonio, as soon as possible.

Plans for the meeting have been made so that the technical session will be held on Wednesday, and Thursday, allowing three days from the United States for driving down and three for driving back, so that an overall period of only one week will be spent away from business if necessary.

Mexico City is 767 miles distant from Laredo, Texas; this is nicely driven in two days time. About seven hundred miles of this road is already paved or well-gravelled, and over five thousand workmen will soon complete the remaining portion.

Cost for the trip will be surprisingly low; actual automobile costs from Laredo and return will not be more than $50.00 per car, and gasoline stations are already in operation along the route. If two couples go in each car the cost is reduced to $25.00 per couple. Living costs in the best hotels and restaurants in Mexico City will average about 75 percent of those in the United States for the same accommodations. The Regis Hotel has promised a 20 percent reduction in rates, and it is contemplated that this will be the convention headquarters. A maximum estimate will place the actual cost for the trip at $80.00 per person (exclusive of souvenirs purchased). Excursion rates will be in effect from all points by train.

Confiscation Law

TEXAS REFINERS BUY BACK SEIZED OIL AS BARGAINS

Tyler. — Through practical application of the new Texas oil confiscation law, East Texas refiners that center their activities on crude and products of questionable legality are rapidly accumulating sufficient bargain-priced, legally absolved material to maintain a saturated gasoline market within the state for the rest of the summer. Wholesale and retail gasoline prices consequently are sagging.

Plant owners of this class are buying back their confiscated products, accumulated mostly in earthen pits, after the state obtains judgment and court orders giving authority to sell the oils at public auction. For a nominal cash consideration paid to the state, plus legal and miscellaneous expense, the original possessors of the contraband products find themselves suddenly converted into law abiding operators. Through the simple process of threatening all other potential bidders with court action, while entering their own offers, competition is eliminated.

Approval of the state tender board for shipment of these re-possessed products by tank trucks or tank cars within the state is mandatory. The Federal Tender Board refuses to give approval to any products of a questionable source, so the huge quantities of repossessed oil products must be marketed within the borders of the state.

Processors of hot oil in East Texas are literally outsmarting the state on the confiscation of contraband products. Plants operating without tenders—five or more do so regularly—are forced to dump their products upon the tank truck market, else sell at a sacrifice the manufactured products to other plants that receive approved tenders from the state board.

Untendered gasoline sells at a price of three to 3½ cents per gallon, while that supported by state tenders, including repossessed material, commands from one half to one cent more per gallon. State tendered gasoline and other products can be shipped via rail to consuming centers beyond reach of the tank truck dealers, thereby reaching markets in a higher priced bracket. Refiners can well afford to pay the state 30 cents per barrel on contraband material so as to qualify same for rail shipment to the more attractive marketing centers.

It is not difficult to understand why East Texas refiners are not making a more strenuous effort toward blocking the state's confiscation suits, when each sale that follows indirectly leads to a bonus for the original owner.

BUY CONFISCATED OIL

Repurchase half million barrels at public sale

Tyler, Texas. — McMurrey Refining Company, Arp, Texas, repossessed 455,278.62 barrels of refined, semi-refined and crude products on July 2 through A. D. Blackwell, secretary of the company, having bid $125,000, or about 27 cents per barrel, at public auction conducted at Tyler by the sheriff of Smith County. The attorney general's department had previously confiscated the material. The products included 103,297 barrels of refined and semi-refined gasoline, valued at from $1.26 to $1.47 per barrel at hot oil market prices; 224,194 barrels of fuel oil; 91,973 barrels of 36 gravity weathered crude; 22,956 barrels of gas oil; 10,000 barrels of tank bottoms; and 2856 barrels of kerosene and distillate.

REVERSE TAX RULING

Accounts receivable held as taxable in Oklahoma

Oklahoma City.—In a decision handed down July 2, the Oklahoma Supreme Court reversed the ruling of the Tulsa District Court when it held that Atlantic Oil Producing Company must pay ad valorem tax on accounts receivable as of the first of each year. Tulsa County had unsuccessfully sought to assess credits and accounts receivable of the company from 1927 to 1930, contending they had been omitted when statement of returns had been made to the assessor. In this case the amounts involved ranged from $59,000 to $153,000, which company attorneys contended was not taxable in Oklahoma since the company is a foreign corporation with only a branch office in Tulsa. Oklahoma, through some of its tax provisions, already is proving itself unattractive to oil producing companies. This decision will serve only to make the state less attractive. On the basis of June collections on May consumption it is shown that Oklahoma motorists paid in excess of $1,100,000 in gasoline taxes at the rate of four cents per gallon to the state. This figure has been exceeded in the past but only during the period when a five-cent state tax was being assessed.

THOMPSON SPEAKS

Re-asserts his opposition to federal control of oil

Houston, Texas.—Colonel Ernest O. Thompson, chairman of the Texas Railroad Commission, gave some interesting figures on the Texas oil industry, and re-asserted his opposition to federal control of Texas oil, in an address here July 3 before the Junior Bar Association of Texas.

He stated that Texas has oil wells in 122 counties (there are 252 in the state) and has 520 separate oil fields and 63,000 oil wells. (From other sources it is indicated there are around 350,000 wells in the United States.)

The internal regulation of the state's oil production is exclusively a function of the state's police powers, Colonel Thompson asserted, and the federal government, under the national constitution, cannot go within Texas borders and regulate oil production. Such regulation has been proposed as possible under the federal authority over interstate commerce, he said, but production is not commerce, and consequently the proposed control would prove unconstitutional.

"We are all lawyers," he stated, "who swore we would uphold the constitution of the state of Texas and the constitution of the United States."

Tyler, Texas.—Charles D. Gouchie of Shreveport has assembled a 4000-acre block centering in the John Goy and Will Little Surveys, Upshur County, Texas, eight miles north of production in the East Texas field. He plans a Woodbine test to spud by August 1. Drilling contract has been let to Thomas D. Humphrey of Longview.

Pipe Line Activity

NEW PROJECTS— CONSTRUCTION PROGRESS

SAN PATRICIO OUTLET

Line to Corpus Christi is announced by Republic

Corpus Christi, Texas.—Construction is to be started within the near future on a new pipe line project to give a deep water outlet to the Sinton and Plymouth fields of San Patricio County. The line, six-inch welded, is to be slightly more than 20 miles long and is to have for its terminus The Texas Company's deep water loading station at Corpus Christi.

The line is to be constructed by Republic Pipe Line Company and is part of the project to take practically all of the production from the new Plymouth and Sinton fields. The oil is to be delivered to tankers bound for Texas City, where the Republic Oil & Refining Company has a skimming and cracking plant.

Plymouth Oil Company discovered the Sinton and Plymouth and controls practically all of the producing area of both. Heep Oil Corporation has several producing wells. Petrol Oil Corporation has one gas well spraying oil, while tests are being drilled by Violet Oil Company, Magnolia Petroleum Company and Benson and Jones. Sun Oil Company holds some likely acreage, and may come into the play with production.

One 55,000-barrel storage tank is being erected on Plymouth Oil Company's "C" lease, in the Plymouth pool. A second tank of similar size is also contemplated. Heep Oil Corporation has a small amount of storage in the two fields, and likely will connect into the line upon completion.

The oil being produced in this district is 32.8 gravity, with a small amount of it running a little above 33 degrees. Republic Oil & Refining Company is paying 87 cents per barrel for this crude at field storage. The fields have a combined allowable of 1050 barrels per day, but this is expected to be materially increased with completion of the number of wells now drilling.

The Sinton field has seven wells producing at this time, four of which are high pressure gas wells making some oil and three producing oil. Plymouth Oil Company has four of these wells, Heep Oil Corporation two and Petrol Corporation one. In the Plymouth field, Plymouth Oil Company has three oil wells and Heep Oil Corporation has one. In the Sinton field, Plymouth Oil Company has one rig running. Heep Oil Corporation is running two rigs in the Plymouth field, Plymouth Oil Company has four, Benson and Jones one, Violet Oil Company one and Magnolia Petroleum Company one.

The action of Republic Pipe Line Company in building this line evidences intention of Plymouth Oil Company to carry on a rather heavy development in the Plymouth and Sinton fields. Plymouth Oil Company, Republic Pipe Line Company and Republic Oil & Refining Company are associate companies, being members of the Benedum & Trees group. Cheap outlet due to close proximity to deep water, excellent gasoline stock crude and company associations should keep this district off the over-production "worry list" for some time to come. The fields indicate large producing areas with high recovery, but will be developed in proportion to refinery needs, it is believed.

BUILDING GAS LINE

Oklahoma City wildcat will receive connections

Oklahoma City.—Phillips Petroleum Company has started work on a natural gas line which will connect Sinclair Prairie Oil Company et al's Franklin-Community 1, SE NW SE 21-10n-2w, recent northern Cleveland County discovery well, with the south end of the Oklahoma City pool. Gauges taken on June 19 indicated the well capable of making approximately 200,000,000 cubic feet of gas with a gasoline content of 1¼ gallons per thousand cubic feet of gas. Gas will be used for lifting old wells in the Oklahoma City pool and possibly for repressuring later. Separators have been installed to remove the gasoline at the well. Length of the line is approximately five miles.

MICHIGAN BRINE LINE

Mt. Pleasant, Mich.—Franklin Tool Company was awarded construction contract for the Porter Brine Association's new salt brine gathering system in the Porter district of Midland County. Approximately eight miles of eight-, six- and four-inch welded line will be put in, connecting the system up with the Dow Chemical Company's plant at Midland.

The line will have a 10,000-barrel capacity. Present estimated brine output in the field is 7000 barrels, not including brine from Pure Oil Company leases, handled by that company's disposal system.

The line will be in operation in August.

BUILDING STATION

Start construction pump station at Lyons, Kansas

Lyons, Kansas.—Standish Pipe Line Company, subsidiary of Phillips Petroleum Company, Bartlesville, Oklahoma, has purchased a 10-acre tract just south of here, and have started construction work on a pump station and camp, which will be the western Kansas headquarters for both the parent and subsidiary companies. E. V. Kile, western Kansas superintendent for the company, is in charge of the camp construction.

MARINE TANKERS

Seven hundred and fifty thousand tons of tanker tonnage will have to be built each year for the next five years, according to an estimate made by Lord Stonehaven, president of the Institution of Naval Architects, before a recent session of that body.

Such a building budget has been made necessary by the comparatively small number of tankers which have been built in the past few years.

Compared with other types of marine carriers, the life of an oil tanker is short.

TANKER SHIPMENTS

From California in May are at highest 1935 level

Los Angeles.—Total of tanker shipments of California petroleum products during May exceeded any month in 1935, were slightly greater than the movement in November, 1934, and was close to the average movement in 1934. The May movement exceeded the average monthly movement in 1931, 1932 and 1933.

In May, total of 1,371,702 barrels of crude moved in tankers from California ports, Pacific foreign drawing 1,162,859 barrels, with three cargoes going to Atlantic foreign. Fuel oil movement totaled 1,777,886 barrels, 830,443 barrels going to Pacific foreign. Gas and Diesel oils to total of 632,499 barrels were shipped.

Atlantic domestic points drew 698,330 barrels of gasoline, the total gasoline movement to all points being 1,650,634 barrels. Pacific foreign points drew 442,320 barrels and 408,404 barrels went to Atlantic foreign ports.

The kerosene movement totaled 402,091 barrels, mostly Pacific foreign. Lubricants to a total of 42,735 barrels moved.

Large Fitts Well

FLOWS 29,232 BARRELS AND McLISH PLAY STARTS

WEEKLY STAFF REPORT

Ada, Oklahoma.—Phillips Petroleum Company's Norris 12, C NL SW SW 25-2n-6e, in the southwestern portion of the Fitts pool, is the largest well in the pool, based on initial tests. Top of the Bromide formation was encountered at 4055 feet, the first sand at 4160 feet, the second sand at 4228 feet and the hole carried to 4262 feet. During the first hour it flowed 1218 barrels through the casing, a rate which would amount to 29,232 barrels in 24 hours. The second hour it was restricted to flow 264 barrels through 2½-inch tubing and was estimated making 14,000,000 cubic feet of gas.

On the southern edge of the pool, E. H. Moore et al's G. B. Smith 6, SE NW NW 31-2n-7e, topped the Bromide at 4040 feet, had the first sand at 4120 feet and went into McLish formation at 4175 feet. After passing through a broken sand between 4260 and 4295 feet, it went into McLish pay from 4355 to 4396 feet, from which depth it yielded 576 barrels the first hour through casing. Several tests in this portion of the pool have been small in the Bromide sands, and in a few instances have not found commercial production. It is evident that considerable difficulty will be experienced in further forestalling development of the McLish zone which underlies the Bromide sands, the main producing zone of the pool. Development of the lower zone along the southern margin of the pool may force the drilling of a large number of twin and in many instances triplet wells to prevent drainage higher on structure. E. H. Moore et al's Smith 5, SW NW NW and Smith 7, SW NE NW 31-3n-7e, reported no showings in the Bromide sands and were being prepared for drilling to the McLish pay.

EXTENSION WELL

Large well completed in Oklahoma City new zone

Oklahoma City.—Phillips Petroleum Company's Freeburg 1, NW SE NE 34-12n-3w, in the newly extended north drilling zone of the Oklahoma City pool, indicated that the area may not have been drained of as much oil or pressure as has been thought. Wilcox sand was logged from 6289 to 6430 feet and drilling discontinued at 6487 feet in green shale. The well made 2841 barrels the first 24 hours, 10 hours of which was while drilling with pressure control and 14 hours natural flow. It subsequently made 3560 barrels in 21 hours natural flow and was estimated making 12,000,000 cubic feet of gas. Connections were cut three times by the large volume of sand which accompanied the oil and gas. Reports from the capitol city stated permit had been granted to drill within two blocks of the governor's mansion. Name of the operator and exact location were not given.

DEEP TEST IN VIOLA

Ardmore, Okla.—Carter Oil Company was drilling below 6475 feet still in Viola lime in Williams 1, SW NE SW 27-2s-3w, wildcat test scheduled to go the 10,000 feet in the old Fox field of northwestern Carter County. Although no official tops have been given out it is understood that 735 feet of Viola lime has been drilled. Company geologists estimate at least 800 feet of this formation will be drilled.

POOL IS DEFINED

Dry hole limits Gilbert field in East direction

Perry, Okla.—Marathon Oil Company has announced abandonment of Gilbert 1-A, NW NW NW 19-22n-3e, east offset to the discovery well in the Gilbert pool, 15½ miles northeast of here in eastern Noble County. The test was drilled to 4470 feet in Wilcox sand, where it found water and was plugged back by stages to test showings in upper horizons. The discovery well, Marathon Oil Company's Gilbert 1, NE NE NE 24-22n-2e, was completed in March of this year, flowing 225 barrels initially by heads from second Wilcox sand at 4474 to 4480 feet, the total depth. It is now producing an average of 325 barrels per day. Three and one-half miles to the southeast of the pool Stanolind Oil & Gas Company was drilling below 500 feet in its Denton 1, NE SW SE 32-22n-3e.

In the Lucien pool in the southwestern portion of the county, Magnolia Petroleum Company had completed for 1316 barrels per day its Sharp 1, C SW SW 34-20n-2w. The well was drilled to 5160 feet where it encountered water several weeks ago and has been plugged back to 5100 feet, the completion depth. It was the first well in the Lucien pool to establish production southward across the line into northeastern Logan County. Stanolind Oil & Gas Company, Amerada Petroleum Corporation et al were building rig for Sharp 1-A, C NW NW 34-20n-2w, three 40-acre locations to the north.

BIG EXTENSION WELL

Edmond pool extended by largest completion

Edmond, Okla.—Pure Oil Company extended production one quarter mile to the north in the Edmond pool when its Malm 1, SE SE SW 30-14n-3w, flowed 958 barrels the first hour, 944 barrels the second hour and 879 the third hour, a total of 2792 barrels and an average of 927 barrels per hour. Gas gauged 26,000,000 cubic feet with shut-in pressure at 2250 pounds. At this average rate the well would have a 24-hour capacity of 22,248 barrels, the largest yet completed in the pool. Production is from Wilcox sand topped at 6603 feet and drilled to 6700 feet, still in the sand.

Riddle et al's Price 1, SW SE NW 30-14n-3w, one half mile to the north and one location west of Malm 1, picked up checkerboard lime at 5428 feet and was drilling below 5515 feet.

BIG WILDCAT WELL

Between new Owen strike and Edmond production

Edmond, Okla.—The importance of northwestern Oklahoma County and the Nemaha granite ridge was further shown during the latter part of the week when Sinclair Prairie Oil Company's Corbett 1, NE NW NE 17-13n-3w, was washed in and started flowing at the rate of 100 to 125 barrels per hour and making from 35,000,000 to 40,000,000 cubic feet of gas from Wilcox sand at about 6690 to 6705 feet. The bottom 10 inches of a core taken from 6699 to 6705 feet showed well saturated Wilcox sand, but other than this no information has been divulged since Simpson dense lime was topped at 6434 feet. The new well is two miles northwest of Slick Urschel Oil Company et al's Owen discovery well, which made 482 barrels of oil and 37,000,000 cubic feet of gas initially, and south of the Edmond pool. There is a possibility that the two discoveries may be on the same structure.

Oklahoma City.—For the fiscal year ending June 30, 1935, the Oklahoma Tax Commission reports collection of $6,415,535 in gross production taxes and $11,075,352 in gasoline taxes. This is a gain of $1,624,932 in gross production tax and a gain of $549,934 in gasoline tax as compared to the fiscal year ending June 30, 1934.

BIG INITIAL FLOW

Oklahoma completions have large recoveries

Tulsa.—Oklahoma operators experienced about a normal week in development, which was featured by the completion of Slick-Urschel Oil Company et al's Owen-Community 1, SE SE SE 19-13n-3w, northwestern Oklahoma County, for 482 barrels of oil and 37,000,000 cubic feet of gas. It probably will be utilized principally as a gas well since it discovers a new pool, and the gas can be used for drilling fuel in development of the find. The completion report included 19 oil wells with combined initial production of 63,172 barrels, three dry gas wells with combined initial volume of 12,500,000 cubic feet, three abandoned locations and 13 dry holes, a total of 38 completions. Of the 19 oil wells three in the Edmond pool of northwestern Oklahoma County accounted for 41,706 barrels of the initial production and two in the Fitts pool of southeastern Pontotoc County, for 17,841 barrels, a total of 59,547 barrels for the five wells. Investigation of the drilling reports showed one wildcat oil well at 6790 feet, one wildcat dry hole, 1600 feet, three old wells drilled deeper, 436 feet, and the 33 others, 76,443 feet, a total of 85,269 feet of drilling.

Seminole County took the lead in new work with 10 first reports, Osage County had six, Creek and Noble counties, four each, Jackson and Marshall, three each; Grant, Okmulgee, Pontotoc and Stephens counties, two each; and Atoka, Beckman, Caddo and Hughes counties, one each; a total of 42 first reports from 14 counties.

BINGER DEEP TEST

Binger, Oklahoma. — Denver Producing and Refining Company's Sah-Cam 1, C SE SE 33-10n-10w, was drilling below 7620 feet, the deepest drilling well in the state. Operators planned on drilling to approximately 7650 feet, where a string of 9⅝-inch, 40.6-pound, Grade D, A. P. I. casing will be cemented with approximately 2000 sacks. Long threads and long couplings will account for a loss of 5⅜-inch in screwage per joint. The string will be run either Monday or Tuesday.

BILLINGS DISCOVERY

Arbuckle lime horizon of doubtful importance

Billings, Oklahoma. — Mid-Co Oil Corporation's discovery of Arbuckle limestone production in the old Billings field near here remained of doubtful importance during the week, after creating considerable excitement about two weeks ago when it flowed at the rate of several hundred barrels an hour. Yost 1-A, NW NW NE 22-23n-2w, encountered Arbuckle lime at 4230 feet and was drilled to 4257 feet. Within a few hours after testing was commenced, it started making water and at one time was reported making only about 25 percent oil. Initial gauging showed it making 560 barrels of oil and 140 barrels of water per hour. Later it had settled to 125 barrels of oil and 45 barrels of water. It probably will be plugged back in an attempt to obtain a water shut off.

UNDER ALLOCATION

During 12-month period state underproduced

Oklahoma City.—During the 12-month period ending June 1, 1935, the State of Oklahoma had a total federal allocation of 176,375,404 barrels and total pipe line runs of 175,597,637 barrels, an underage of 777,767 barrrels, according to figures released by the Oil and Gas Conservation Department of the Corporation Commission. In six of the 12 months, pipe line runs exceeded the federal allocation by small amounts.

FITTS POTENTIAL

For July is expected to exceed 425,000 barrels

Ada, Okla.—Potential gauging of the Fitts pool of southeastern Pontotoc County was commenced on Friday, July 5 and was due to be completed on July 17. The first seven days 14 wells are to be gauged each day, the next three days nine wells each, and the last day three wells, a total of 128 wells scheduled for testing. All tests are to be made through 2½-inch tubing for a period of six hours, production the last four hours of the period to be multiplied by six in determining the potential. Gauging of the 128 wells is expected to show a total potential in excess of 425,000 barrels, which is undoubtedly considerably less than actual capacity of the wells to produce wide open.

During the first five months of this year the pressure decline per 1000 barrels of oil produced has ranged from .011 to .398 pounds per square inch as indicated by readings taken in the key wells. On June 1, 1935 the 114 wells had an average total depth of 4259 feet, were equipped with 2½-inch tubing averaging 4110 feet in length and were estimated capable of making more than 250,000,000 cubic feet of gas daily through the tubing or an average of 2,175,000 cubic feet per well. Gas/oil ratios ranged from 263 to 13,322 cubic feet per barrel of oil and averaged 716 cubic feet. Bottom-hole pressures in the key wells averaged 1780.3 pounds in January, 1719.3 pounds in February, 1708.0 pounds in March, 1693.0 pounds in April and 1682.5 pounds in May, a drop of 97.8 pounds per square inch while producing 1,302,218 barrels of oil or an average pressure decline of .075 pounds per square inch per 1000 barrels of oil produced.

6800-FOOT WILDCAT

Test is to be drilled in South Cleveland County

Purcell, Oklahoma.—Arab Petroleum Company has announced location for McKiddy 1, SE SE NW 16-7n-1e, 10 miles northeast of here in southeastern Cleveland County. It is 22 miles southeast of Sinclair Prairie Oil Company et al's Franklin-Community 1, SE NW SE 21-10n-2w, a 200,000,000-cubic foot wet gasser completed late last month. Nearest production is in the St. Louis pool 16 miles to the east. Arab Petroleum Company is composed of R. F. "Bob" Garland and associates, who have been working on the block for several months. Recently, the organization paid $7.50 per acre for an undivided one-fourteenth interest in NE and NW of Section 17, the E½ SE of Section 8, and the NE of Section 9 all in 7n-1e. One provision of the deal was the starting of a 6800-foot test by July 13. Marathon Oil Company and Deep Rock Oil Corporation are contributing dry hole money. Close in royalty is commanding $100 per acre and finding takers. Mid-Continent Petroleum Corporation recently leased the SW SW of Section 4 and the E½ NE 8-7n-1e.

WILDCAT HAS SHOW

McAlester. — One of the hottest leases and rolalty plays in the state is under way in the Atoka-Coal counties area, which now has several important wildcat tests drilling. Interest in the area was intensified during the week when R. H. Pierce et al's Aetna Life Insurance Company 1, NW SW NE 10-1n-13e, had a small showing of oil in sandy shale at 330 to 450 feet and drilled to 830 feet, where the hole started caving badly. Operators attempted to clean out and a considerable amount of gas broke through the cavings. A string of 12½-inch casing will be run to test this showing, which apparently is coming from near the bottom of the hole. The test is located 17 miles northeast of the town of Atoka in northeastern Atoka County.

RANK DEEP WILDCAT

Test is to be started in Western Love County

Marietta, Okla. — Sinclair Prairie Oil Company was due to start work during the week on Stockton 1, SE SE SW 26-6s-2w, rank wildcat test 16 miles west of here in western Love County. Nearest production is in the Brock pool 12 miles to the northeast. The test is to be deep and according to the Sinclair geologic department no geologic information will be publicly released until completion. No announcement has been made as to size of the block or the probable structural condition. This area has long

been considered as having good possibilities, since it is in the same relative position to the Criner Mountains as is the Healdton pool to the Arbuckle Mountains.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth.
CARTER COUNTY—		
Skelly Oil Co., Fee 1, se sw ne 17-2s-2w (pb 2000)	*	2461
CREEK COUNTY—		
Johnson O&Ref, Murrell "A" 5, se se se nw 17-19n-9e	*	1265
GARFIELD COUNTY—		
Cummings et al, Gage Est. 1, sec nw 27-22n-3w	*	....
HUGHES COUNTY—		
Limestone's 1-A Narcome, nw sw nw nw 14-7n-8e	*	1300
Elliott's Pickens 7, nw nw ne 15-7n-8e	50	2985
JACKSON COUNTY—		
Robinson & Suppes, Walker 1, sw sw sw 19-4n-20w	*	1600
JEFFERSON COUNTY—		
Ben Lyon et al, Ryan 1, nw nw nw 16-6s-6w	*	2261
LOGAN COUNTY—		
Continental Oil Co., McConnell 1, cse se 28-17n-4w (otd 6141)	2082	6327
MARSHALL COUNTY—		
Headington, Snell 2, sw ne ne se 36-7s-5e	*	480
Fleming & Kimball, 2 Snell "B," sw nw sw nw 31-7s-6e	15	478
Leavell Coal Co., Walkup 1, se ne ne sw 1-8s-5e	*	592
McINTOSH COUNTY—		
Wegton and Ray, Koch 1, sw sw ne ne 15-11n-15e	¶3	1055
OKFUSKEE COUNTY—		
Bruin Oil Co., 2-A Barrett, nw sw sw nw 25-11n-11e	*	2444
OKMULGEE COUNTY—		
Elm Oil Co., Rentie 26, ne se sw 13-14n-14e	*	1087
OKLAHOMA COUNTY—		
American O&G, Washington Park 3, se nw nw sw 35-12n-3w	356	....
Slick-Urschel et al, Owen 1, se se se 19-13n-3w	¶37-482	6790
Continental Oil Co., Young 2, ne se nw 31-14n-3w	14,916	6720
Marathon Oil Co., Dahl 4, nw ne sn se 31-14n-3w	12,366	6582
Mid-Continent Pet. Corp., Young 4, nw sw ne 31-14n-3w	14,424	6700
OSAGE COUNTY—		
Ohio Osage Oil Co. 10, nw ne nw nw 16-21n-9e	¶1½	2601
Barnsdall Oil Co, 18. nw ne se nw 30-21n-9e	10	338
Johnson O&Ref Co. 14, se nw nw se 30-21n-9e	25	334
Ohio Osage et al 8, nw se nw nw 34-21n-9e	10	1097
Pure Oil Co. 3, se ne sw nw 36-22n-8e (otd 2720)	40	2767
PONTOTOC COUNTY—		
Phillips Pet. Co., Norris 9, ne sw sw 25-2n-6e	5580	4236
Manahan Oil et al, Wagner 2, se ne se 18-2n-7e	117	1754
Fleetborn, Jackson Lewis 1, se se sw 19-2n-7e	*	....
Carter Oil Co., Hardin 9, ne se sw 30-2n-7e	12,144	4110
Stanolind O&G Co., A. J. Hardin 4, se nw sw 30-2n-7e	¶8	2475
POTTAWATOMIE COUNTY—		
Phillips Pet. Co., 1-A Hegdon, nw nw ne 5-6n-5e	*	4275
Bishop Oil Co., Zoller 3, e½ ne sw ne 6-6n-5e	*	....
Sinclair Prairie, Myers 5, sw se se 32-7n-4e	200	4250
Pure Oil Co., Wiley 1, se se nw 8-8n-5e (otd 4101) (pb 4300)	*	4304
SEMINOLE COUNTY—		
Mudge Oil Co., 1-A Pompey, nw nw ne 9-6n-7e	*	2922
Deep Rock Oil Co., Hagler 2, sw se ne 19-9n-7e	235	4125
STEPHENS COUNTY—		
Sykes Oil, Franklin 10, se nw se se 18-1s-8w	45	1875
George Pace, Daily 1, ne ne ne 26-1n-8w	*	3552
Sykes Oil Co., Dolan 4, se ne nw nw 15-1s-8w	75	2099

*Failures; †Junked; ¶Million cu. ft. gas.

Activity Increases

KANSAS FIELD WORK SHOWS PICK UP WITH 34 STARTS

WEEKLY STAFF REPORT

Wichita, Kansas.—Kansas came back in a large way when 34 first reports were made from 12 counties. Rice County was in the lead with 12 first reports; Ellsworth and Sumner counties had four each; Russell County, three; Barton, Cowley and Woodson counties, two each, and Ellis, Elk, McPherson, Pratt and Sedgwick counties, one each. The two preceeding weeks had been subnormal in the rate of addition of new work, having fallen to about 50 percent of the average for the first six months of the year.

Initial production also was boosted to a satisfactory point when 20 oil wells added 12,211 barrels to the state's cumulative initial production. One location was abandoned and seven dry holes completed, bringing the total completions to 28 compared to 17 during the preceeding week. One wildcat dry hole was completed at 3577 feet, four old wells were deepened 1151 feet and 23 others involved 76,736 feet, a total of 81,464 feet for the week.

STECKEL EXTENDED

Well mile east has 3000 feet of oil in the hole

Lyons, Kansas.—One of the most interesting news items from the fields of Kansas during the week was the extension of almost a mile to the east of production in the Steckel pool, 14 miles west of here in the western portion of Rice County. Hard-Burney Oil Company et al's Wendel 1, SW SW NE 32-19s-10w, had Siliceous lime at 3289 feet and four feet in had 3000 feet of oil in the hole in six hours. A liner was to be set before testing the extensioner. It has been predicted that the Steckel and Isern pools may be joined before the area has been developed.

START BARTON TEST

Great Bend, Kansas.—W. E. Witt et al have announced location and were digging pits for Murray 1, NW NW SW 14-17s-14w, 14 miles northwest of here in northwestern Barton County. It is understood the test will be in the middle of a large block of acreage owned by Empire Oil & Refining Company, who has contributed some acreage for a free test. Nearest production is about 10 miles to the southwest in the Otis area of eastern Rush County.

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth.
BARTON COUNTY—		
Gypsy Oil Co., Kultgen 1, ne se nw 16-16s-12w	928	3342
BUTLER COUNTY—		
Phillips et al, Moore 1, nw nw se 1-25s-3e	39	2710
C. L. Siebel, Taylor 1, se nw nw 29-29s-4e	*	1975
COFFEY COUNTY—		
Aikman & Braden, Povenmire 2-A, se nw sw sw 14-22s-13e	25	1841
COWLEY COUNTY—		
Trees Oil Co., Hauser 1, csw se 19-34s-4e		2863
M. B. Armer et al, Roberts 1, sw ne ne 7-33s-3e (otd 3499)	*	3515
Watchorn Oil et al, Gregory 1, sw se se 6-35s-3e	186	3500
ELK COUNTY—		
Murphy Oil & Minnehoma O&G Co., Ferguson 5, nw se sw sw 3-31s-8e (otd 2013)	10	2692
Dave Morgan, McClure 1, ne ne ne 8-31s-10e	*	....
ELLSWORTH COUNTY—		
Bradley & Scanlon, Mohoney 2, nw se se 14-17s-9w	700	3191
Empire Refining Co., Rolfs 5, nw se ne 14-17s-9w	1750	3178
HARVEY COUNTY—		
Lauck et al, Boller 1, sw sw sw 29-29s-1e	*	3683
Cameron, Derby & Trees, Brainard 1, sw se nw 19-24s-2e	*	3395
McPHERSON COUNTY—		
Shell Petroleum Co., Decker 3, cse ne 11-19s-2w (otd 2939)	109	3395
RENO COUNTY—		
Barnsdall Oil Co., Sabin "C" 2, sw nw se 11-23s-4w (otd 3783) (pb 3726)	1540	3783
Olson and Shell Co., Krehbiel 6, cw½ e½ nw 26-23s-4w	542	3593
Gypsy Oil Co., Myers 2, cne nw 3-24s-4w	1499	3603
RICE COUNTY—		
Smith-Ash-Phillips, Byers 3, sw se nw 21-19s-9w	60	3295
Gypsy Oil Co., Collis 2, sw nw nw 28-19s-9w	275	3280
Empire Refining Co., Tournear 3, ne se ne 29-19s-9w	712	3234
Empire Refining Co., Proffitt 8, se nw se 6-20s-9w	472	3270
Gypsy Oil Co., Smith 1, ne ne ne 16-20s-9w	1473	3237
Hipple et al, Brown 3, sw nw ne 10-21s-6w	*	3442
RUSH COUNTY—		
El Dorado Refining Co., Stang 1, se se nw 36-17s-17w	*	3577
RUSSELL COUNTY—		
Empire Oil & Refining Co., Krug 3-A, ne nw nw 24-15s-14w	*	3831
SEDGWICK COUNTY—		
Dickey Oil Co., Riley 2, sw ne sw 20-28s-1e	133	3112
Johnson & Atlantic, Marsh 1, ne nw sw 20-28s-1e	192	3117
SUMNER COUNTY—		
Shawver, Frankum 1, ne se ne 32-31s-1w	278	3693
Shell Petroleum Co., 2 Scroggins "B," se se sw sw 14-32s-2e	1288	2905

*Failures; †Junked; ¶Million cu. ft. gas.

14 Pumping Wells

AND FOUR FAILURES IN 117 EAST TEXAS COMPLETION

WEEKLY STAFF REPORT

Tyler, Texas.—Maintaining its heavy run of completions, the East Texas field added 117 the past week, including two dry holes and two junked tests. There were 118 completions the previous week, and 106 week before last.

Independent operators and companies, representing the minority in lease ownership, lagged somewhat in completing only 68 of the total completions, or 58 percent total, as compared to 62.3 percent of the total the previous week.

Number of new wells lacking sufficient energy to flow natural increased to 14 the past week, including nine that were completed on pump, while the balance were swabbed for initial gauges.

Gulf Production Company scored a dry hole on the southeast edge of the Joiner area in drilling W. B. Perry 4, Joseph Hambry Survey, into water sand at 3677 feet, or 3322 feet sub sea. It is offset by production to the north and west.

Further evidence that the numerous independents exploring the erratic sand in Upshur County along the northwest flank of the structure are destined to receive setbacks along with an occasional big producer developed the past week. J. K. Wadley and others, holders of the dry hole record for Upshur County by a wide margin, added to their string in scoring a water well in the west portion of their H. P. McGaughy 16-acre lease, Wm. King Survey. Top of Woodbine was logged at 3746 feet, or 3333 feet sub sea, and sand at 3775-78 feet carried water. It is about 1200 feet southwest of Delta Drilling Company's Adkins 1. Wadley et al's E. L. Gillespie 1, an east offset to the latter, made 50 barrels per hour from sand at 3694-98 feet, with an elevation of 364 feet. Trans-State Oil Co.'s W. J. Evers 1, near west edge of production, developed water and quit flowing after about three hours from sand at 3838-45 feet.

WASKOM COMPLETION

Marshall, Texas.—One completion in the old Waskom gas field, which is making a small amount of gas along with about ten barrels of oil daily from chalk at 2360 feet, one new wildcat location, and a workover, were accounted for last week in Harrison County, Texas.

The well completed, making an estimated one million cubic feet and 10 barrels of oil daily after acid treatment, is Socogee Oil Corporation's Timmons 3, W. R. Anderson Survey. This is the third well treated with acid in the chalk for this company in that field.

The new location is I. W. Adams and E. B. Bird's Washburn Lumber Company 1, F. Jordan Survey, where derrick is up. It is a wildcat.

H. H. Alvord has taken over Mitchell 1, J. Lipscomb Survey, drilled by D. Thomason and associates to 978 feet and completed in April, 1926, as a four-million-foot gasser, is being deepened by the new owner and is drilling below 2180 feet.

In Panola County, J. D. O'Mara is arranging to make location on Louis Werner Sawmill Company acreage in the Wolf Survey, for a test to be located 600 feet south of a test drilled on the same lease by Keene and Woolf in the W. M. Harrigan Survey.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Jack Apple & Young, Kangerga 3 (38-ac)	480	3645
Arkansas F. O. Co., E. M. Beall 9 (79.47-ac)	9000	3748
Atlantic, H. L. Griffin 9 (80-ac)	4500	3650
British-American O. P. Co., Kangerga 11 (69.78-ac)	9600	3644
J. D. Stone 8 (66-ac)	5600	3638
Burwin Oil Co., M. Smith-Humble 8, blk 15 (4.04-ac)	1500	3670
Colonial Prod. Co., S. S. Cook 9 (35-ac)	9200	3721
Combined Oil Ints., G. W. Eaton 26 (100-ac)	4800	3765
Fox & Butler, Afton Thrash 5 (14-ac)	5000	3734
W. H. Gant-Garvin-Wegener, W. P. Moore 20 (134.24-ac)	500	3592
Gulf, W. B. Perry 4 (296.22-ac)	*	3677
Humble, A. D. Blackwell 43 (325.79-ac)	9000	3656
A. D. Blackwell 44 (325.79-ac)	8500	3676
J. E. Glover 14 (132½-ac)	3500	3777
Ida Holt 4-A (32.62-ac)	10,400	3722
Kangerga 50-A (333¼-ac)	7200	3664
C. Pilgreen 15 (136.4-ac)	8000	3796
H. L. Hunt, C. Young 15 (125.95-ac)	6500	3750
Iowa Payne Oil Co., F. B. Wilson 5 (25-ac)	8000	3758
F. B. Wilson 6 (25-ac)	9300	3741
Jack T. Life & W. E. McKinney, A. Green 1 (10-ac)	8800	3825
Lone Pine Oil Co.-A. B. Stoddart, J. L. Pinkston 4 (20½-ac)	5400	3687
J. W. Luttes et al, W. O. Alford 3 (40.9-ac)	7200	3845
Manahan Oil Co.-E. H. Hughes, W. F. Neal-Shell 13 (109-ac)	8600	3737
Marathon, M. M. Cross 76 (814.84-ac)	6300	3656
C. L. Graham 17, Acct. 2 (134.7-ac)	7800	3668
E. E. Moores 27 (201.4-ac)	1500	3697
Marko O&G Co., Green Gossett 2 (33.8-ac)	1000	3694
Miller Prod. Corp., D. Bradford 13-B (16.17-ac)	1000	3649
Nivla Oil Corp., D. Bradford 2 (13.13-ac)	480	3620
Octo Oil Corp., Sallie Crook 2 (209.16-ac)	200	3610
W. H. Stroud 7 (38.29-ac)	75	3580
H. C. Tipps (4-A (21.91-ac)	200	3572
Overtex O&G Co., John Rettig 1 (100-ac)	†	3682
Peachtree Oil Corp., W. H. Stroud-Kimbrell 2 (60-ac)	75	3661
John Pugh et al, B. Roberson 1 (77.6-ac)	†	3829
Rusk Crude Oil Co.-McDonald & Campbell, Wheelis 4 (5-ac)	10,500	3784
Shell, H. Brooks 20-B (176.4-ac)	4600	3712
H. Brooks 21-B (176.4-ac)	3500	3716
Sinclair Prairie, Mayfield 44-A (374.74-ac)	7000	3852
E. L. Smith Oil Co., I. W. Wooley 5	120	3645
Smith County O&G Co., S. S. Cook 6 (25-ac)	7200	3722
Stanolind-Pure Oil Co., W. H. Siler 54 (983.53-ac)	500	3608
Strickland & Mullins, Frank Cole 3 (10.81-ac)	7500	3838
Sun, R. J. Hendon 17	..	....
H. A. Pace 15-B (637.45-ac)	7000	3817
Texas Co., A. Jarvis 14-A (161½-ac)	6000	3622
KILGORE AREA—		
Amerada, W. D. Lacy 8 (83.6-ac)	6000	3567
W. D. Lacy 9 (83.6-ac)	5000	3567
Arkansas F. O. Co., Hughey-Ross 23 (220-ac)	8000	3544
Atlantic, W. J. Brightwell 19 (96.4-ac)	8800	3661
Barnsdall, D. Smith-Shell 10-B (39.97-ac)	7000	3597
J. G. Beard et al, J. S. Elder 3 (27.16-ac)	100	3557
Cloverleaf Pet. Co., Sam Carr 3-C (4.66-ac)	7000	3540
DeArman & L. O. McMillan, W. Roberson-Shell 13 (100¾-ac)	425	3675
Doss-Jones Oil Co., Ella Hagler 8 (30-ac)	8500	3570
Ella Hagler 9 (30-ac)	9200	3590
E. C. R. Oil Co., Inc. (was Capitol Oils) S. E. Mayfield 2 (33 1/3-ac)	500	3650
Empire, E. L. Walker 8 (152.21-ac)	6500	3618
H. S. Forman & Porter Lindsey, R. H. Rowland 3 (8.84-ac)	250	3542
R. H. Rowland 4 (8.84-ac)	250	3545
Galvez Oil Corp., M. T. Cole 13 (40-ac)	3000	3565
Georgian Corp. & Pollard, D. Jones 1	500	3680
Gralenor Oil Co., A. A. King 6 (78.33-ac)	8000	3660
Gulf, C. Brown 43 (263.52-ac)	7000	3546
S. Holburn 76-B (172.3-ac)	7500	3571
C. Strong 17 (137.3-ac)	6000	3724
M. R. Terrell 8 (60.26-ac)	9000	3624
Hester et al (was J. C. Prine), P. C. Warren 2 (22.7-ac)	5600	3809
R. A. Holte et al (was Vise et al), Cumi Wells 2 (15-ac)	9000	3636
Humble, L. D. Crim 162 (914.51-ac)	7200	3720
L. D. Crim 165 (914.51-ac)	7200	3620
S. S. Laird 37-A (230-ac)	5400	3708
M. Roberson 6 (30-ac)	1000	3679
J. W. Luttes et al, Maggie Register 4 (32.45-ac)	1000	3702
Chas. L. McMahon et al, Spear-Laird 12 (92¼-ac)	8600	3660
Shell, Rosa Russell 23 (126-ac)	7500	3645
Stanolind & Crosbie, J. S. Powers 10 (90.91-ac)	2000	3705
Tide Water, M. G. Barton 25 (194-ac)	8000	3610
Weaver-Perry Corp., G. W. Culver-Humble 1 (25-ac)	400	3561
LONGVIEW AREA—		
Amerada, Catie Bumpas 15 (98.3-ac)	8600	3577
Mary Killingsworth 12 (100-ac)	8000	3626
Allen Tooke 9 (60-ac)	9500	3540
Arkansas F. O. Co., P. D. Harrison 6-A (128-ac)	7200	3586
Houston Stephens 8 (57.77-ac)	10,000	3573
Delta Drlg. Co., E. H. Hamilton 2 (80-ac)	1000	3742
H. P. McGaughy 1 (16-ac)	*	3778
Sam Dorfman-J. D. Reynolds, J. T. Miller-Humble 7 (58.04-ac)	3500	3756
J. T. Miller-Humble 8 (58.04-ac)	3500	3756
Empire, L. A. Jeter 18 (121½-ac)	10,500	3587

[*Continued next page*]

Company, Well and Location	Init. Prod. Bbls.	Depth
Faith Oil Corp., J. C. Barrett 18 (140-ac)	5400	3688
Bert Fields et al, K. C. Moser 1	8400	3618
M. T. Flanagan Prod. Co., fee 6 (30-ac)	9000	3668
Gulf, J. H. Bozeman 17 (110.68-ac)	7500	3598
W. A. Ray 10 (813.73-ac)	160	3594
M. O. Sheppard 41 (375.8-ac)	8000	3505
E. S. Heyser & C. E. Heard, L. Y. Tuttle 7 (26-ac)	8200	3622
Humble, W. R. Hughes 38 (245.6-ac)	7500	3685
Della Johnson 7-B (57.8-ac)	9000	3635
E. O'Byrne 11-B (104.2-ac)	5400	3744
Magnolia, H. B. Ziegler 17 (120.62-ac)	9600	3489
L. E. Merritt et al, L. Brawley-M. C. Salter 1 (9.4-ac)	50	3816
Nat'l O. & G. Co., Moser-Blackstone 7 (7½-ac)	7000	3586
Peckham Oil Co., Thos. Wells 8 (40-ac)	8800	3743
Rancho Oil Co., E. G. Richey 4 (12.76-ac)	9000	3609
Shell, Exton Cabbiness 3 (79.7-ac)	400	3622
G. H. Slaton 14 (123.65-ac)	8200	3627
T. B. Stinchcomb 12 (89.76-ac)	9500	3507
Stanolind-Tide Water, M. Magrill 4 (20-ac)	5500	3667
J. C. Persons 21 (151.5-ac)	9200	3524
Sun, Allen Tooke 11-B (80-ac)	10,600	3589
T. C. Ramey 11 (86.54-ac)	450	3747
Superior Oil Co., H. Pritchard 19-A (99¼-ac)	9500	3559
Sutton & Hawkins, J. A. Whittaker 9 (40-ac)	9000	3532
Trans-State Oil Co., W. J. Evers 1	1200	3845
J. K. Wadley et al, E. L. Gillespie 1 (220-ac)	3600	3698
Yount-Lee, W. I. Denson 7-B (21.22-ac)	7800	3625
Geo. E. Fenton 10-A (77.64-ac)	7200	3577
HARRISON COUNTY—		
Socagee Oil Corp., Timmons 3, W. R. Anderson sur	10	2360
LEON COUNTY—		
Killough & Tucker, J. W. Lee 1	*	5641
LIMESTONE COUNTY—		
J. W. Kemp & Co., Vol DeLong 1	*	2876

*Failures; †Junked; ¶Million cu. ft. gas.

MAY BUILD PLANTS

In Panhandle of topping type due to conditions

Pampa, Texas.—The Texas Panhandle is threatened with a second invasion by the "mushroom" class of crude topping plants. Many wells in Gray and Wheeler Counties have been waiting for pipe line connections since last May, after drilling to the top of the oil horizon, and no immediate market relief is in sight, owing to the purchasing companies being content with serving their existing well connections.

Operators of crude skimming plants in East Teaxs are known to be casting an eye on the Panhandle situation, due to the opportunities for an adequate supply of high gravity crude at what they term "satisfactory price arrangements." Crude production restrictions in the Panhandle assessed by the Railroad Commission are largely dependent upon the pipe line companies for enforcement, and no tenders are required by the federal authorities for interstate shipments of refined products turned out by plants in the district.

More than a score of wells in the western Wheeler County section of the Panhandle have been standing from four to six weeks on top of the prolific granite wash pay because of pipe line companies refusing to make connections. Gray County likewise has a number of tests in the same status.

Biggest Means Well

MINOR NORTHWEST EXTENSION TO MEANS FIELD BY LARGE WELL

NORTH & WEST TEXAS

WEEKLY STAFF REPORT

San Angelo, Texas.—The Means field, largest proved oil producing area in Andrews County, scored its biggest well early last week when Humble Oil & Refining Company's R. M. Means 4, near C SE SW Section 4, Block C-45, PSL Survey, tested 49 barrels of oil per hour for nine hours from lime at 4520 feet, or 1335 feet below sea level. It affords a minor northwest extension, and occupies a higher structural position than any of the six previous wells completed by the company, owner of leases aggregating 21,273 acres almost solid in the immediate area. Means 4 flowed 18 barrels hourly at 4500 feet, and increased to 25 barrels per hour at 4510 feet. It was drilled in with rotary pressure control equipment. A higher crude yield is to be sought from this new completion by treating the lime pay with acid.

Shell Petroleum Corporation, first outside company to try for production in the Means field, has moved in equipment to drill J. S. Means 1, C SW SE Section 2, Block A-35, PSL Survey, a north offset to a completed well. Humble Oil & Rening Company is confronted with a continuous drilling program on its Means ranch acreage until the productive limits are defined, and has moved in materials to drill R. M. Means 5 and J. S. Means 4.

Honolulu Oil Corporation and Llano Oil Company's J. E. Parker 1-B, encountered sulphur water in lime at 4792-4804 feet, or 1586 feet sub sea. It will be plugged back for a heavy shot of nitro in series of oil horizons logged at the 4600-4700-foot level, with assurance of making a producer. This semi-wildcat is located in the NEc NW NE Section 11, Block A-43, PSL Survey, about three-quarters of a mile southwest of the partnership's discovery well.

Wildcat Activity

Continuous bailing test given the Dobbs Oil Company's W. E. Friend 1, Reagan County wildcat producer, failed to exhaust the 1400-foot column of oil standing in the hole after shot in lime at 2330-95 feet. Big casing has been pulled preparatory to placing the well on pump. It was drilled into sulphur water at 2465 feet, and successfully shut off water in plugging back to 2440 feet. Location is about five miles southeast of the Big Lake field.

Gulf Production Company's White-Baker 6, C NW NW Section 94, Block 194, GC&SF Ry. Survey, situated southwest of oil and gas production on the White-Baker ranch, Pecos County, failed to log oil or gas prior to encountering sulphur water in lime at 1790-93 feet, although it was relatively high on structure. Plugging orders have been issued for this test, the fifth dry hole for the company on the ranch, and machine will be moved to NEc Section 15, Block "Z," T. C. Ry. Survey, to drill White-Baker 7. Gulf Production Company's White-Baker 3, SEc N½ Section 4, Block 207, T. C. Ry. Survey, discovery oil well, is preparing to deepen because of production having declined to an unprofitable volume in the 1824-26-foot lime. Cardinal Oil Company and International Petroleum Corporation each drilled failures in offsetting this producer. However, Cardinal Oil Company recently developed a gas well about 2½ miles to the southeast after plugging back from water at 1785-90 feet to 1775 feet.

The Girvin area in southeastern Crane County has two wildcats underway, and a third project was contracted for last week when B. H. Fleet and associates obtained a block of leases from The Texas Company and others in return for starting a dolomite lime test by August 1. Location will be on the R. S. Pershing ranch, and will be spotted in either Section 1 or Section 13, Block 35, H&TC Ry. Survey. The Dobbs Oil Company, Dallas, and W. L. Holloway et al have tests underway to the northwest and southeast, respectively.

Preliminary pumping gauge given Gulf Production Company's M. B. McKnight 1, C SW SW Section 9, Block B-21, PSL Survey, Crane County wildcat, indicates an oil yield of 50 to 75 barrels daily, with an equal volume of water from the uncased hole above the lime pay. It is located about 4¾ miles northeast of the small flowing wildcat producer on the Tubb ranch in the Sand Hills area, but is producing from a higher section of the lime than the latter well. McKnight 1 scored a gradual gain in oil in drilling from 3569 feet to 3713 feet, the present depth. Top of Yates sand was logged at 1635 feet, and brown lime at 2530 feet, with an elevation of 2671 feet. The lime section may be shot before passing up the oil zone to deepen to the Sand Hills horizon.

Paul C. Teas, San Antonio, has assembled a 4350-acre wildcat block in eastern Sutton County to drill a 4500-foot test on the G. S. Allison ranch near center of SW¼ Section 49, Block "A," GWT&P Ry. Survey. Several ma-

jors have subscribed to acreage protection in the area at $10 per acre. A recent failure in the Ordovician lime horizon drilled by Teas et al on the Clarendon Mower ranch, Sutton County, was liberally supported by majors desirous of lease protection.

WEST CENTRAL TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BROWN COUNTY—		
E. K. Anderson & S. E. Yarbro, H. J. Guyer 1	*	790
C. C. Neeb et al, T. S. Williams 1..	*	1203
E. Selvidge et al, fee 2	*	1300
CALLAHAN COUNTY—		
Geo. R. McManis et al, E. J. Norton 1	*	667
Schuman Synd., C. B. Snyder 2...	10	935
COLEMAN COUNTY—		
H. W. Green et al, Hunter Bros. 1	*	1354
PALO PINTO COUNTY—		
J. Dalton et al, W. H. Pennington 1	*	1327
Palo pinto Oil Corp., Strawn Coal Co. 12	¶1/3	3320
PARKER COUNTY—		
R. M. Tierce et al, M. L. Byrd 1..	*	1000
SHACKELFORD COUNTY—		
Albany Oil Co. & H. Pardue, G. R. Davis 2	70	1597
Dean & Adkisson, W. P. Newell 5	20	1429
Dickey et al, B. S. Walker 1	*	464
Fortex Oil Corp., W. D. Reynolds-Lee 2	*	1215
Hoffman & Page Co., Morris-Buie 4	¶½-10	1603
Owen-Snebold Oil Corp.-FHE Oil Co., Reynolds-Gulf 9	*	1460
Reliance Oil & Royalty Co., G. R. Davis 5	75	1638
G. R. Davis 1, Sec 10	15	1575
Roeser-Pendleton, Inc., Conoco, W. I. Cook 1, sec 89	*	1450
W. I. Cook 56-A, sec 61	60	1264
Tannehill et al, J. B. Mathews 22..	110	990
Texas Consolidated Oil Co., G. R. Davis 1	*	1720
Welch & Standifer, W. D. Baker 1	*	1690
West & Honea, W. D. Baker 1....	*	1995

*Failures; †Junked; ¶Million cu. ft. gas.

WEST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ECTOR COUNTY—		
Int'l Pet. Corp. & O. C. Harper, E. F. Cowden 1	393	4333
FISHER COUNTY—		
Geo. Callihan & O'Donnell, M. E. Herring 1	700	3126
Russ Pet. Co., Inc., M. S. Reynolds 1	*	3206
Southern Oil Corp., A. E. Pardue 2-A	700	3119
TOM GREEN COUNTY—		
J. F. Jacobs et al, H. G. DeLong 1-A	*	534
HOWARD COUNTY—		
The California Co., W. L. Foster 11, lse. 1	126	2776
LOVING COUNTY—		
West Texas Pet. Corp., Hamill-Ellis (H. Freels) 2	335	4264
PECOS COUNTY—		
Corvette Oil Corp., H. Monroe 19-B	102	521
Gulf, White-Baker 6	*	1793
UPTON COUNTY—		
Crosby Drlg. Co., J. F. Lane 4....	125	2332
Gulf, Crier-McElroy 15	671	2943
WARD COUNTY—		
Atlantic-Penn Oil Co., Bennett 3-B.	1132	2585
California, B. D. Durgin 30	189	2580
J. F. York 17	373	2527
J. F. Provine & Jim O'Quinn, B. Carson 3	75	2185
Shell, S. S. Owen-Sloan 2	209	3046
Stanley A. Thompson, W. D. Johnson-Sun 7-B	1368	2525
W. D. Johnson-Sun 12-B	412	2555
Tex-Mex Pet. Corp., S. S. Owens-Llano 5	203	3032
Roy A. Westbrook, Lee Monroe-Postelle 2	311	2538

*Failures; †Junked; ¶Million cu. ft. gas.

DEEP WELL SWABS

Gulf McElroy may make 150 barrels per day

San Angelo, Texas.—Swabbing tests given Gulf Production Company's J. T. McElroy 103, which has been plugged back from 12,786 feet to 9977 feet and treated with acid after perforating 7⅝-inch casing at 8130-8270 feet, indicates a crude yield of about 150 barrels daily, plus considerable water. The oil is from the Cisco member of the Pennsylvanian lime series. This well established a number of new records in drilling to 12,786 feet, where it found a prolific volume of sulphur water in the lower section of the Ellenberger lime.

Interest in Ordovician production has subsided somewhat in West Texas as result of the numerous failures outside the Big Lake field. Humble Oil & Refining Company's L. W. Pollock 1, northeastern Upton County wildcat, is seeking production from the Ellenberger, or lower Ordovician, and has progressed beyond the 7300-foot level. Gulf Production Company's W. N. Waddell et al, western Crane County, is also seeking this zone, having drilled to the 4700-foot level. Both tests are likely to be drilled below 10,000 feet. Negotiations are about complete for the resumption of drilling on Loffland Brothers, John I. Moore et al's L. S. McDowell 1, Glasscock County wildcat. Operations were halted early in April at 9946 feet for minority interest holders to raise funds for the payment of their proportionate share of the drilling expense. Indications are that sufficient capital has been assembled to drill for 10 days or more.

TWO NEW TESTS

Near Gray County wildcat are to be drilled

Pampa, Texas.—Test wells have been obligated by two independents in acquiring lease protection near Bell Oil & Gas Company's wildcat oil producer on the Furneaux ranch, southwestern Gray County, situated on the south flank of the granite ridge. Taylor Oil Company (Clayton-Dwyer Drilling Company) is preparing to drill Furneaux 1, Swc S½ SE¼ Section 101, Block B-2, H&GN Ry. Survey, or a short distance east of the wildcat producer, while Jones Brothers, Dallas, and associates are to drill to the west of the well and in the SW¼ Section 110. The latter paid $50 per acre cash for lease on three tracts, aggregating 400 acres, in Sections 101 and 110. Bell Oil & Gas Company's Furneaux 1 is rated at 50 barrels daily, but is shut in at 3262 feet, pending completion of lease tanks and pipe line connection. A larger well is expected when the granite wash is given a shot.

Plains Drilling Company (R. L. "Bill" McSpadden) developed a flow of 31 barrels of oil in 35 minutes from granite wash formation at 2598-2603 feet in drilling A. Chapman-Conoco 2, NEc Section 10, Block 26, H&GN Ry. Survey, eastern Gray County. This well missed the usual heavy gas production in the upper lime section, and logged only a trace of oil in dolomite lime at 2570-75 feet. Cy. Rieger et al's A. Chapman 1, NEc W½ NE¼ Section 52, Block 25, H&GN Ry. Survey, has been abandoned in salt water at 2835-40 feet, or about 50 feet below sea level.

TEXAS PANHANDLE

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
Gulf, E. Cooper 8	425	3050
Phillips, E. Cooper 2	54	3075
GRAY COUNTY—		
Continental, C. Wright 11	†	2693
Empire, A. C. Shields 4	231	3225
Kewanee O&G Co., M. S. Arnold 6	342	3253
King Royalty Co., G. Simpson 2....	496	3262
Mazda Oil Corp., Combs-Worley-Shell 5	524	2968
HUTCHINSON COUNTY—		
Int'l Pet. Corp., Tom Lewis-Badger 8	458	3045
Harry Stekoll et al, J. A. Whittenburg 7-B	441	2985
J. A. Whittenburg 8-B	391	3064
J. A. Whittenburg 7-G	349	3020
WHEELER COUNTY—		
Skelly, O. L. Derrick 15	218	2513
Smith Bros. Ref. Co.-Hanlon & Buchanan, Inc., Harlan 8	1077	2520

*Failures; †Junked; ¶Million cu. ft. gas.

EXPECT PRODUCTION

Good drill stem showing by Walton-Keystone test

San Angelo, Texas. — Favorable drill stem test scored by one of the seven active wildcats seeking oil production from the Walton-Keystone area, comprising an abnormally high structural position in north central Winkler County, indicates that the two participating operators will be rewarded with oil production from dolomite lime section equivalent to that yielding big oil wells in the Hobbs field, New Mexico. Ector County's original oil field is also producing from this same type of structure, but is lacking in comparable porosity and oil and gas yield.

Formation tester used at 3465-3524 feet on Sid Richardson et al's J. B. Walton 1, NWc SW SW Section 1, Block B-3, PSL Survey, filled the drill pipe with 1750 feet of oil and mud in 40 minutes, but very little gas was in evidence.

Gulf Production Company's Keystone 2, NWc Section 17, Block B-2, situated about three miles southeast of Richardson's original test for the area, entered the lime section at 2290 feet, or about 200 feet lower than the north end test, and late last week was coring lime at 3609 feet, or 668 feet below sea level. It has not logged oil saturation in the dolomite lime, although about 100 feet deeper in the lime section than Richardson's prospective oil producer. Gulf Production Company's Keystone 5, NWc SW¼ Section 6, Block B-2, registered the highest structural position in topping the lime at 2090 feet, or 862 feet above sea level, and was coring at 3035 feet.

The other active tests have not progressed below the 3300-foot level.

Productive limits of the Scharbauer-Goldsmith field, northwestern Ector County, were extended to an overall length of about five miles when Landreth Production Corporation et al's Clarence Scharbauer 1-A, SEc NW¼ Section 13,

Block "A," PSL Survey, filled 3000 feet with oil and later made small heads from lime at 4130-61 feet. It has drilled to the 4190-foot level with a lower oil horizon expected. This is the third oil producer for the area, and is 1½ miles northeast of the company's discovery well.

PANHANDLE STOCKS

Pampa, Texas.—Crude stocks in the Texas Panhandle have sustained a steady gain since last February, with 108,050 barrels added during May. The district was credited with a total of 13,777,050 barrels of oil in steel storage at the close of May.

START OPERATIONS

Magnolia to drill 3700-foot Archer County test

Wichita Falls, Texas.—Magnolia Petroleum Company is starting operations on a 3700-foot test in Archer County to try for production in the Canyon and Strawn lime horizons. Location is in the most westerly southeast corner of the company's Luke McCrory lease, situated northwest of the Chalk Hill field.

Initial showing made by F. W. Merrick, Inc.'s J. W. Hess 1-A, semi-wildcat in Cooke County and about two miles north of Muenster, indicates a 100-barrrel pumper from broken sand at 826-29 feet and 848-50 feet. It is in the SEc of J. C. Richards Survey, A-885, and about 3400 feet west of a recent strike scored by the company on the Knabe land from lime at 740-745 feet, with the hole bottomed at 821 feet.

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth.
ARCHER COUNTY—		
O. T. Anderson Oil Co., G. R. Campbell 1, blk 11	*	1301
Wm. Justice 12, blk 3	25	1086
Wm. Justice 1-B, blk 2	10	1088
L. T. Burns et al, Albers 4, blk 117	55	1246
Shirley Clum et al, Lassiter 1-B	*	1285
Barney Cockburn et al, A. E. Brown 1, sec 2421	*	1425
Fain-McGaha Oil Corp., S. M. Key 1	*	1410
Continental Oil Co., Falls 21-B	57	1128
W. J. Logan 13-A	40	1139
J. C. Hamer et al, S. E. Snider 1, sec 2601	*	956
W. B. Hamilton Pet. Co., W. Pace 30, blk 100	13	1156
W. Pace 31, blk 100	60	1174
Hardesty & Elliott Oil Co., W. T. Richardson 15, sec 2424	15	1462
W. T. Richardson 16, sec 2424	70	1368
J. H. Krahenbuhl et al, B. Carrington 4, blk 153	*	1204
Lanfair Bros. et al, J. A. Bell 4, sec 14	5	1140
Panhandle Ref. Co., H. O. Prideaux 6-F	5	689
Perkins-Cullum Oil Co., Abercrombie 16, sec 157	9	1010
Falls County 181, blk 21	125	1126
Pet. Producers Co., J. T. Richardson 10-E, blk 1	215	1256
E. J. Stump & Co., L. F. Wilson 5, sec 1	15	1526
The Texas Co., Morrison 5, sec 1580	95	1233
BAYLOR COUNTY—		
Consolidated Pet. Co.-Pet. Producers Co., Portwood 8-D, sec 1579	250	1387
PORTWOOD 9-D, sec 1579	265	1377
PORTWOOD 10-D, sec 1579	280	1380
CLAY COUNTY—		
Metzner & Burns, L. Thornberry 9, blk 6	3	334
COOKE COUNTY—		
Bridwell Oil Co., R. W. Trew 2	10	1467
R. W. Trew 3	18	1144
Fain-McGaha Oil Corp., A. A. Otto 3	20	864
McElrath & Suggert, J. H. Gatewood 1	*	1800
W. F. Russell et al, S. H. Riley 1-A	*	1657
The Texas Co., J. Waltersheid 1	40	772
JACK COUNTY—		
C. C. Campen et al, W. M. Miller 1	*	410
Compton Bros., C. R. Mower 1	*	600
Gaines et al, W. H. Smith 4	*	306
Ralph Herring et al, Coleman Leach 2	*	578
Worth Oil Co., J. W. Maxey 9, sec 2	*	465
MONTAGUE COUNTY—		
Benton & Holmes, C. L. Davenport 7-B	100	1744
WICHITA COUNTY—		
Geo. W. Cooper et al, Waggoner Bros. 31, blk 13	8	1873
Golding & Cochran, Waggoner Bros. 19-C, blk 17	*	1557
Waggoner Bros. 20-C, blk 17	*	305
Horwitz & Oldom, W. Hodges 2	500	1649
King Royalty Co. (was Wheeler-Brashear), Waggoner-Conoco 1-L	*	2000
Pois & Schultz, Etheridge-McCormick 1, blk 7	*	1301
Chas. H. Smoot et al, Mrs. H. Lalk 1, blk 274	*	1120
J. L. Swanner et al, J. McCormick 2, blk 6	20	1260
The Texas Co., W. B. Honaker 68	10	1062
WILBARGER COUNTY—		
McAlester Fuel Co. (was Consolidated Oil Co.), Waggoner 10-T	250	1889
Riner & Massie, Waggoner Est. 23-A, sec 22	300	1889
E. M. Stilley et al, Waggoner 1-G, sec 23	*	1203
YOUNG COUNTY—		
L. T. Burns et al, J. L. Castleman 3, sec 72	*	1261
Ports & Rogers, Grant 1	*	542
A. H. & S. P. Schmitt, R. O. Andrews 3, sec 1399	23	923
C. P. Sheldon et al, Belknap 1, sec 8	*	700
Sam Simmons et al, W. H. Daley 3	*	602

*Failures; †Junked; ¶Million cu. ft. gas.

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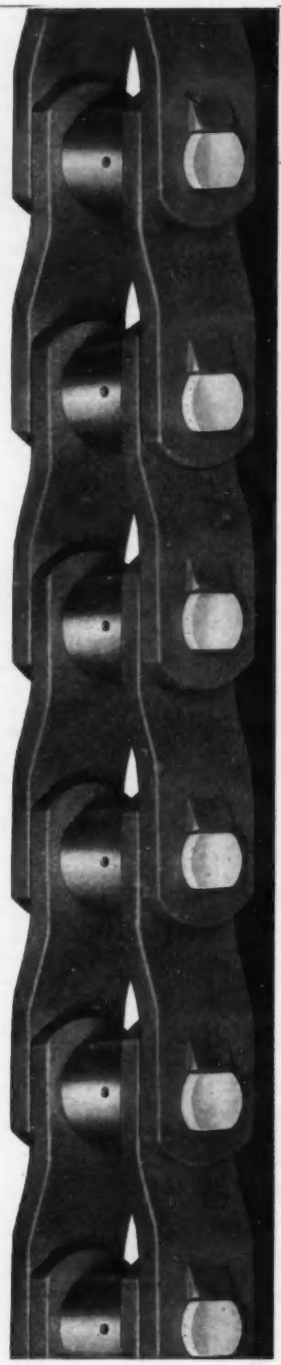

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Nueces Hot Spot

NEW FIELDS AND NEW SANDS AT SAXET RECORD FOR WEEK

SOUTH TEXAS WEEKLY STAFF REPORT

San Antonio.—A new field and additional producing horizon in the Saxet field were features of activity in Nueces County during the week. Recent field extensions have put this area to fore as a possible hot spot for South Texas.

Magnolia Petroleum Company's Bobby Baldwin 1, four miles southwest of Clarkwood, nearest production, made a drill stem test of a sand at 3878-82 feet, which showed 1800 feet of oil in 15 minutes through ¼-inch bottom choke and ⅜-inch top choke. Casing has been set and preparations made to complete it.

The well is 3675 feet from the north line and 3125 feet from the west line of Section 165, but in the J. S. McGregor Survey No. 39. It is 330 feet from the north and west lines of the 160-acre tract.

Considerable trading is being done in the immediate area, most of which is by the Magnolia Petroleum Company. Prices ranging from $7.50 to $100.00 per acre cash are being paid.

The well created a flurry of activity several days preceding the last showing by coring a sand at 3231-38 feet, which showed possibilities of production. Drill stem test yielded a small gas pressure and a little salt water.

The other strike was A. F. Holliday's J. Griffith 1, George Frank Survey No. 416, in the Saxet field. It made a drill stem test at 5598-5602 feet, where some mud, a small quantity of 56 gravity oil and a slight pressure were recorded. Casing is being set. A small well is expected.

LOPENA FAILURE

San Antonio.—Efforts to extend the Lopena field, Zapata County, failed when Gem Oil Company abandoned J. G. Ramirez 1 at 3502 feet. The well is located in Share 3, Porcion 18, one quarter-mile southeast of production. It topped the Mount Selman at 2098 feet and picked up considerable sand below this level carrying gas, but could not find enough oil saturation to make a commercial well.

South of the field, Cox et al's D. Yzaguire 1, Share 17, Porcion 15, is shut down for repairs at 2478 feet. It has encountered a number of sands carrying slight oil saturation.

PEARSALL FAILURE

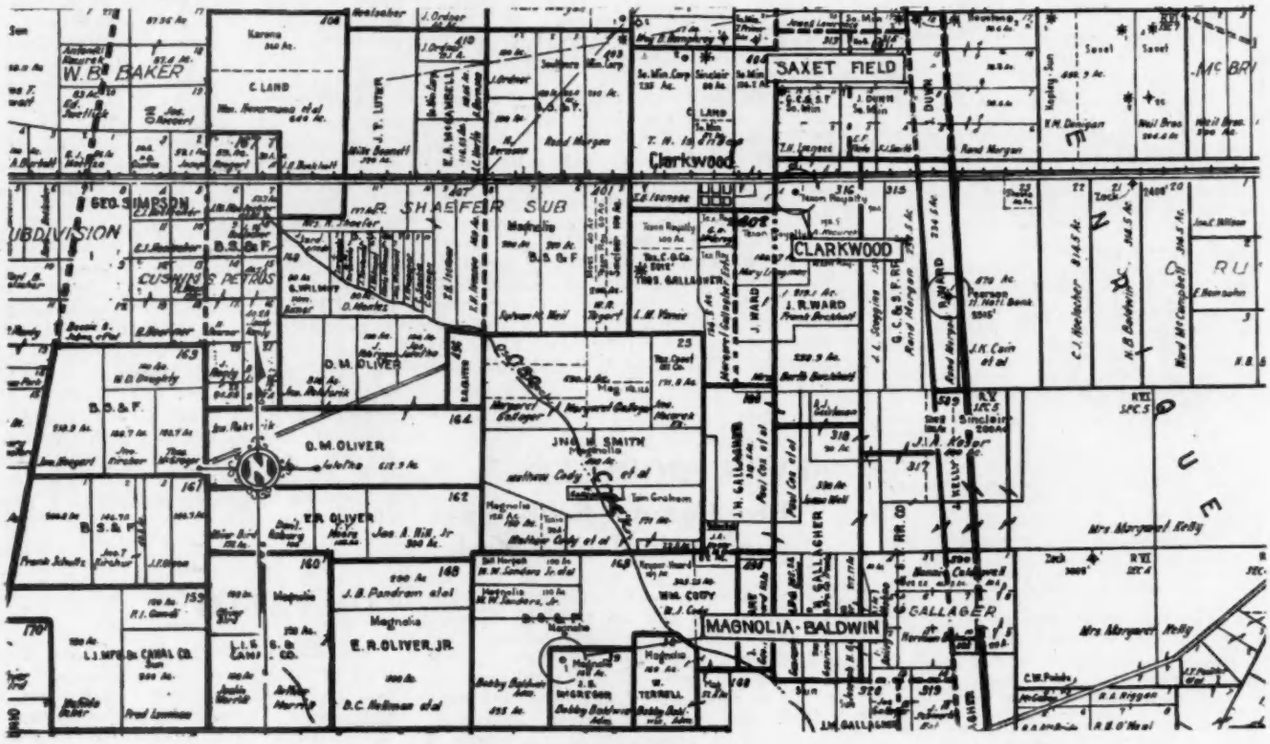
San Antonio.—Amerada Petroleum Corporation failed to extend its Pearsall production, Frio County, in a well drilled a half-mile to the southeast of the field. Kothmann 1 flowed salt water when completed at 3957-61 feet.

Four and one half miles southwest of the field, Amerada Petroleum Corporation's W. H. Smith 1, is drilling at 5910 feet, headed to the Edwards lime.

STOPS FLOWING

Port Lavaca offset well casing being perforated

San Antonio.—The Texas Company is having trouble in completing Shofner 1, south offset to the discovery oil well in the Port Lavaca field, Calhoun County. The well showed an initial flow of 15 barrels per hour from 6232-45 feet, but due to the low gas pressure, it went dead. Casing is being per-



Map shows area around Magnolia Petroleum Company's Baldwin 1, west of Corpus Christi, in Nueces County. The well is approximately 3½ miles south of the Saxet field and is attracting one of the hottest recent leasing plays on the Trans Salt Dome trend. Map courtesy of Porter Regenold, Corpus Christi.

forated at 6226-32 feet to let in enough gas to flow the fluid. The well has been drilled to 6262 feet, but showed some salt water and was plugged back.

Halliburton Oil Production Company's Burton 2, east offset to the above well is completing at 6222-38 feet.

Empire Gas & Fuel Company's Hartman 1, west of production, is making a drill stem test at 6190 feet.

The Texas Company's Hackney 1, four miles west of the field in the Martin area, is coring sand at 6071 feet.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth.
BEE COUNTY—		
Dirks Bros., J. E. Roth 4, sec 7, Uranga gr (Dirks)	750	3845
Falvey et al, S. D. Copeland 1, 1650 ft nl, 330 ft el of tr, B. Q. Hadley sur (½ mi sw Rutledge)	*	3441
Heyser, Heard & Walton, H. C. Young 1, F. P. Rawlins sur (Dirks)	400	3891
H. C. Young 2, F. P. Rawlins sur (Dirks)	400	3866
Humble, Shellenberger 1, sec 7, Uranga gr (Dirks)	500	3892
Luling O&G Co., B. B. Ruhmann 7-B, blk 40, Hodge sur (Caeser)	265	3067
Leslie McKay, P. L. Campbell 4, B&B sur (W. Tuleta)	440	3956
DUVAL COUNTY—		
Duval Oil Corp., Moody 1, sec 76 (Loma Novio)	650	2691
Hill et al, W. J. Nester 1, sec 47 (Gov't Wells)	¶5	2277
Kone Prod. Co., Peters 1, sec 176 (N. Kohler)	¶20	2571
Sun Oil Co., Cuellar 11, sec 576 (Sarnosa)	84	2421
E. R. Thomas, se se sec 63 (Loma Novio)	600	2636
GUADALUPE COUNTY—		
Grayburg Oil Co., McKean 15, Cottle sur (Luling)	*	2083
HIDALGO COUNTY—		
E. A. Davis et al, Tomas Flores 1, sh 312, por 38 (Samfordyce)	*	3080
D. M. C. Oil Co., Daskam 1, 450 ft el, 55 ft sl blk 34, por 45	*	4114
Harrison & DD Oil Co., Lula George 1, tr 13, por 41 (Samfordyce) pb and perf csg 2752-58 ft	500	3101
JIM HOGG COUNTY—		
Darby Pet. Co., Holbein 1, 330 ft sl and wl blk 5, Los Animas gr	*	4014
Sun Oil Co., L. R. Brooks 1, 7500 ft nl and wl of tr in Domingo Abajo gr	*	4812
JIM WELLS COUNTY—		
Maher & Shira, Schaeffer 1, 1400 ft wl, 10 ft nl of S. Bigham sur (near Armagosa field)	*	5505
McMULLEN COUNTY—		
Loma Oil Co., L. Jacob 2-W, Benham sur No. 9 (Jacob)	3	925
REFUGIO COUNTY—		
Houston Oil Co., Pratt, Hewitt, Rooke 27, T. Mullin sur (Refugio)	140	4921
STARR COUNTY—		
H. L. Curry, Kelsey Bass 2, sh 8, por 77 (Loa Olmoa)	*	1220
Henshaw Bros., S. Sanchez & Bro. 1, 1650 ft nl, 3150 wl sec 344	*	3745
Hiriam M. Reed, Doyno Chatfield 3, blk 3, tr 21, por 80 (Rio Grande City)	*	1502
VICTORIA COUNTY—		
Plummer Dr. Co., E. Terrell 3-A, R. Manchola gr (Coleto Creek)	125	2840
E. L. Smith Oil Co. & Gulf Prod. Co., Henderson & Pickering 1, 330 ft nel and sel of lot 75, J. M. Bronson sur, 2½ mi sw Placedo field (extends field, opens new sand) pb 4777 ft.	250	4802
WEBB COUNTY—		
Associated Oil Co., A. M. Bruni 5, sec 7, Arispe gr (Cole, Bruni townsite)	150	3391
Mills Bennett, J. Lopez 1, 1320 ft wl, 2500 ft sl of sec 73, 10 mi n Bruni (opens new field)	85	2144
ZAPATA COUNTY—		
Gem Oil Co., J. G. Ramirez 1, 330 ft swl, 1375 ft nwl sh 3, por 18, ¼ mi se Lopena field	*	3502

*Failures; †Junked; ¶Million cu. ft. gas.

EXTENDED CAMPAIGN

Conservative drilling in prospect for Duval area

San Antonio.—Loma Novio-Hoffman trend, Duval County, is in the first stages of a conservative, but consistent development campaign. With more than 1000 acres of territory already proved and 2000 additional acres of potential production area expected to be added to the field through a series of wildcats and semi-wildcats just starting, this district should maintain a steady drilling campaign for months to come.

The most outstanding development of the week was the failure of Bridwell Oil Company's J. D. Sutherland 1-a (Sun lease) to make a commercial producer at 2697-2712 feet. It is several locations due west of the same company's Sutherland 1, which showed some oil in the Government Wells sand, but later went to salt water. Additional exploration is underway in the Hoffman district in an effort to line out this production.

The work in the Loma Novio field in the way of exploration now centers around a series of tests along the extreme eastern edge of the Government Wells field and west of the new district. Two producers were added during the week along this section of the field. Duval Oil Corporation's Moddy 1, Section 76, flowed 18 barrels per hour through ⅜-inch bottom and ½-inch top choke at 2668-91 feet. E. R. Thomas' C. W. Hahl 1, Section 63, flowed 20 barrels per hour through ½-inch choke from 2626-36 feet.

COLETO EXTENDED

San Antonio.—A slight west extension to the Coleta Creek field of Victoria County is being effected through completion of Trans-State Oil Company's Kanster 1, R. Manchola Grant. The well is at a total depth of 2832 feet, in sand, and has casing set.

Recently, Plummer Drilling Company's E. Terrell 3-A, inside location, was completed in sand at 2828-40 feet, flowing three barrels of oil per hour through 3/16-inch choke on tubing, showing working pressure of 100 pounds and casing pressure of 500 pounds.

SEVEN PRODUCERS

Bee County fields have good completion week

San Antonio.—Five producers were completed in the Dirks field of Bee County during the past week. One each were added in the West Tuleta and Caeser fields of the same county.

Dirks Brothers' J. E. Roth 4 flowed 30 barrels per hour from 3845 feet, while same operators' R. C. Harris 4 was a completion at 3886 feet, but initial production not reported. Heyser Heard & Walton's H. C. Young 1 and 2 were completed at 3891 feet and 3866 feet, respectively, each making slightly more than 15 barrels per hour. Humble Oil & Refining Company's J. Schellenberger 1 flowed 20.2 barrels per hour through ½-inch choke at 3892 feet.

Leslie McKay's P. L. Campbell 4, in the West Tuleta field, was completed for 18 barrels per hour at 3959 feet. Between the West Tuleta field and the extension area, Tidewater Oil Company's J. K. Renno 1 (Simms lease) cored a sand at 3118-61 feet and another sand at 3334-43 feet, both of which indicated production. The well is being deepened to the regular Pettus sand.

NEAR COMPLETIONS

San Patricio County has several approaching sand

San Antonio.—Several wells were in process of completion in the Plymouth district of San Patricio County as the week closed.

Heep Oil Corporation's E. H. Welder 2-E tested salt water at 5667 feet and has plugged back. Casing will be perforated and new production test made. Same operator was drilling below 5400 feet in Welder 3-E.

Plymouth Oil Company's Welder 4-C, was in process of completion at 5639 feet, sand having been topped at 5597 feet. Welder 5-C is coring below 5320 feet, Welder 6-C is drilling at 3400 feet, Welder 7-C is down 1700 feet, and Welder 8-C will be moved onto within a few days.

In the Sinton field, Plymouth Oil Company's Welder 1-D is at a total depth of 6680 feet and has plugged back to 5925 feet, where casing has been set. It will be gun perforated for production test. Conroe Drilling Company's Welder 1-D, north of the Sinton field, has been abandoned at 6007 feet.

Three wildcats in the Plymouth field area are being watched with considerable interest as possible extensions. Magnolia Petroleum Company's Corpus Christi Bank & Trust Company 1, nearly two miles southwest of production, is making hole slightly below 5000 feet. Violet Oil Company's Welder 1, more than a mile west of production, is drilling below 4000 feet. Benson & Jones' Welder 1, nearly one mile south of production is rigging up.

About one third of a mile north of the Angelita field, Continental Oil Company and Atkins & O'Neil's J. F. Welder 3, Juan Hart Grant, cored a sand at 5547-61 feet, which showed oil, gas and salt water on drill stem test. It is whipstocking at 5307 feet to re-drell the sand and make a production test.

LOMA ALTO

San Antonio.—The new Loma Alto field of McMullen County does not appear too promising from the production standpoint. Darby Petroleum Company's E. R. Hagist 1-C, Section 108, diagonal southwest offset to the discovery well, showed only two feet of tight, hard sand at 2190-92 feet and is now drilling below 2320 feet.

Humble Oil & Refining Company's J.

W. Atkinson 1, west offset to the discovery well, is drilling at 1505 feet in shale, running slow due to lack of water. Texio and Illinois Petroleum Company's Atkinson 2, east offset to the discovery, is coring for the sand.

NEW PETTUS SAND

Production established in Goliad County well

San Antonio.—A new Pettus sand field was established in Goliad County through completion of Keystone Royalties Company's C. B. Wood 1, three miles east of Berclair and 10 miles south of the town of Goliad.

The well is bottomed at 5961 feet in sand, the last five feet of formation being sand. Drill stem was stuck about 200 feet off the bottom of the hole and could not be removed. As a result, it was decided to complete through the drill stem. It built up a pressure of 650 pounds through ⅜-inch choke and showed a volume of about 5,000,000 cubic feet of gas.

It is located 10,500 feet southwest and 3229 feet southeast from the north corner of the John Shearn survey.

San Antonio.—Lion Oil & Refining Company's F. E. McNeill Estate 8, northeast side of the McNeill field, Live Oak County, flowed oil in three minutes on a drill stem test of sand at 4363-81 feet. Casing has been set and cemented.

NEW SAND EXTENSION

Placedo extended by shallower horizon well

San Antonio.—Placedo field, Victoria County, was extended 2½ miles west and a new sand opened during the week. These completions revive interest after several key well failures had indicated that this district would be of limited importance.

E. L. Smith Oil Company and Gulf Production Company's Henderson & Pickering 1, east corner Lot 75, Bronson Survey No. 10, one-quarter mile west of Placedo Junction and 2½ miles west of the field, is flowing 165 barrels of oil per day through 3/16-inch choke on tubing, showing a working pressure of 250 pounds and casing pressure of 450 pounds. The well opens a new sand in the Heterostegina zone, 1200 feet shallower than the discovery sand. The well through error was drilled to 4802 feet, testing salt water. It plugged back and completed in sand at 4764-77 feet.

Gillespie and Superior Oil Company's J. Janis 1, west offset to the discovery well, was completed for 15 barrels per hour through ¼-inch choke on tubing, showing working pressure of 275 pounds and closed in pressure of 750 pounds. It is bottomed at 4756 feet with casing set at 4737 feet.

Eastern Texas Oil Company's (Costa) Schovajsa 1, one mile southwest of the discovery well, drilled to 4789 feet, perforated casing at 4760 feet and is re-running screen. It is showing for at least a gas well spraying some oil.

Eastern Texas Oil Company's Henderson & Pickering 1, Block 19, is rotating at 6029 feet. Gillespie and Superior's Brandt 1, Block 11, is shut down at 6255 feet. Magnolia Petroleum Company's Henderson & Pickering 1, Lot 18, is coring at 6374 feet. Martez Oil Company's Mitchell 1, E. Benevides Survey, is drilling at 4860 feet. Eastern Texas Oil Company's Williams 1, is rigging up. Crown Central Petroleum Company's Schovajsa 1, Lot 15, rigged up and shut down.

FLOW IMPROVING

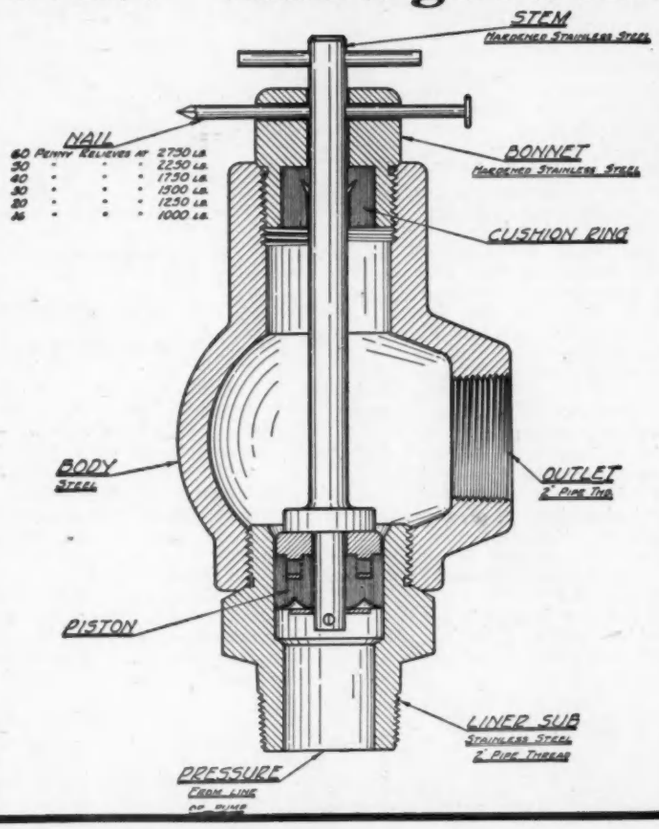
Second well in new Webb County field being tested

San Antonio.—Late in the week, Mills Bennett was testing J. Lopez 2, second well in the newly discovered Webb County field, 10 miles north of Bruni. The well is one location southeast of the discovery test.

The discovery well, J. Lopez 1, has been showing an increase in fluid after being put on production. It was first completed as a gasser, but sprayed a sufficient amount of oil to indicate a commercial well. It was doing slightly more than three barrels of 22 gravity oil per hour through 3/16-inch choke, tubing pressure 760 pounds.

The location of the second well is 330 feet from the south and east lines of the 110-acre discovery tract, being the west half of Tract 10-B, Section 73.

NOW—take a good look Inside this Valve



WHICH RELIEVES OVER-PRESSURE by SHEARING A NAIL

Some of the main reasons why it rapidly became the choice of the field:

1. Quickly set by any member of the crew, the pressure guide and nail gauge on name plate eliminating any chance of a mistake.
2. Positively relieves pressure at set point, practical design and material preventing any possibility of sticking.
3. Cannot leak when closed, the piston traveling its full length before any release is allowed.
4. When it opens it opens instantly . . . . all the way . . . . allowing unobstructed flow, and preventing cutting action.
5. Sheared nail is the only damage resulting from released pressure, since the piston moves entirely out of the path of the flow.
6. Made in high pressure, for slush pumps, and low pressure, for gathering pumps or similar service.

Refer page 69, your 1935 Composite Catalog, or write for descriptive folder.

FLUID-PISTON SLUSH PUMPS
ABERCROMBIE PUMP CO.
GULF BLDG. HOUSTON, TEX.

Hastings Extended

COMPLETE WELL 2000 FEET NORTH OF PRODUCTION

WEEKLY STAFF REPORT

Houston.—The Hastings field, Brazoria County, was extended 2000 feet north during the past week when Stanolind Oil & Gas Company's Ford 1, was completed as an oil producer at 6124 feet.

Late July 5, 1935, the well was flowing into the pits and the operators had not received a gauge, but it was estimated good for 250 barrels per day of pipe line oil through a quarter-inch choke. The test is located 330 feet north of the south line of 199-acre tract and 1725 feet east of the west line of A. C. H. & B. Survey No. 1. It is 2000 feet north of Wooster 1.

H. H. Ford 1, topped the saturated oil sand at 6112 feet and set seven-inch casing at 6108 feet.

The same operators Sneed 3, 750 feet west of Sneed 1, was completed late July 3, for 220 barrels per day from 6100 feet. The saturated oil sand was topped at 6075 feet, and seven-inch casing was set at 6070 feet.

The possibilities of a new oil sand looms in the Hastings field, in Stanolind Oil & Gas Company's J. C. Hutcheson 1, 330 feet south and 330 feet east of the northwest corner of 40-acre lease in H. & T. B. Survey, No. 36. The test is 3000 feet west of the most southern producer, Paul 1. The well is now shut down waiting on orders at 5924 feet after encountering an oil sand from 5830 to 5854 feet. It is reported that the operators will make a production test of this sand.

POSSIBLE DISCOVERY

Test in Wharton County is drilling out plugs

Houston. — The Texas Company's Pierce Estate A-2, 2100 feet northwest of A-1, I.&G.N. Survey, Section 39, Block A-405, a possible discovery well for a new field in Wharton County, was preparing to drill plugs at the close of the week after being shut down over the holidays.

Seven-inch casing was set at 4704 feet, and the operators cored six feet deeper to 4710 feet, and reset the seven-inch casing. While coring to 4710 feet one and half feet of sand was found.

The Texas Company's Pierce Estate A-2 topped the oil sand at 4699 feet, and a gas sand at 4693 feet. The well was completed two weeks ago but was killed due to the high gas/oil ratio. The wildcat is located 2425 feet south and east and 4400 feet north from the west corner of the above survey.

To the southeast and in Matagorda County, Skelly Oil Company's Cobb 3, Van Vleck field, M. Cummings Survey, was waiting on cement to set at 7085 feet after setting 9⅝-inch casing at that depth. The well tested salt water at 7108 feet.

H. M. Smith's Wadsworth Estate 1, west flank of Sheppards Mott dome, S. R. Fisher Survey, was shut down at the end of the week at 8418 feet. During the past week the test was opened and made 15 barrels per hour for three hours and then went dead.

FIRST PRODUCTION

Is taken from discovery well at South Houston

Houston. — The first commercial production was received from Stanolind Oil & Gas Company's Fee Land 1, discovery well for the South Houston field, Harris County, June 29, 1935, when it came in making 166 barrels daily from sands found at 4665 to 4680 feet. The flow was through quarter- and ⅜-inch chokes.

On July 3, 1935, the well was making 134 barrels per day through a 3/16-inch choke, with 790 pounds on the tubing. The gravity of the oil is 26.8 degrees.

This discovery well topped Discorbis at 4500 feet, Frio at 4724 feet, having failed to pick up any Heterostegina or Marginulina "bugs." Elevation is 47 feet derrick floor, and 37 feet at the surface.

E. E. Young has made location for Griffith 2, 2900 feet east of the west line of lease and 3476 feet south of the north line of A. R. Bodeman Survey, A-140, No. 3 and 2030 feet west of the east line of the survey, Harris County. The test at the end of the week was down to 800 feet in shale.

After penetrating Cockfield 146 feet, Hebert, Still & Hooper plan to test A. Backman 1, in the Ogburn area, Harris County. The well topped the Cockfield at 6302 feet and at 6448 feet it is reported that the operators had a showing of gas. On a core from 6435 to 6448 feet the operators received an 18-inch core which showed gas and a drill stem test will be made from 6412 to 6414 feet.

The wildcat topped the Heterostegina at 3031 feet, Hockleyensis at 5333 feet, Dibollensis at 6139 feet and Cockfield at 6302 feet.

To the south in Galveston County, Humble Oil & Refining Company added a new Dickinson field producer in Maco Stewart B-2, which is located 610 feet southeast of A-1, J. Sellers Survey. The well is bottomed at 8067 feet and is making 140 barrels per day through a 3/32-inch choke. On a quarter-inch choke, the well made 28 barrels per hour with 1300 pounds pressure on the tubing and 2700 pounds on the casing.

To the west of Dickinson, Coast Petroleum Corporation's Maco Stewart 1, W. K. Wilson Survey, was fishing at 8016 feet and is running about 500 feet lower than the highest well in the Dickinson field.

TEXAS GULF COAST

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARBERS HILL—		
Mills-Bennett Prod. Co., Barber C-2.	340	5960
BATSON—		
Danciger Oil & Refg. Co., Wynne 1.	*	6333
Sterling O. & R. Co., L. Cruse 1....	*	5780
Doucette 1	*	5914
CONROE—		
Malta Oil Co., Texas Osage 7.....	288	5087
Texas Osage 8	696	5076
Strake Pet. Co., Krohn 14.....	*	5134
Krohn 15	*	5155
DICKINSON—		
Humble, M. Stewart B-2.....	672	8067
ESPERSON—		
General Crude Oil Co., J. H. Hlavaty 1	*	lcn
W. K. Kay 1	*	9375
HANKAMER—		
Gulf, Crow & Jacobs 3, wo.....	140	5162
HIGH ISLAND—		
Yount Lee, Smith 17, wo.....	270	6190
HULL—		
Republic Prod. Co., Dolbear 143, wo	672	2324
HUMBLE—		
Sun, C. O. & G. Co., 32.....	389	3149
River 84	71	1295
MANVEL—		
Sid Bolling, H. F. Stitt1.....	30	4000
Texas Co., A. R. G. C. H. 2.....	60	4021
Ewing 8	¶1	4008
SOUTH HOUSTON—		
Stanolind, Fee Land 1.....	166	4665
SOUTH LIBERTY—		
Saddler Prod. Co., McLean 11.....	4	780
SPINDLE TOP—		
Yount-Lee, McFadden 15, wo	113	2561
TOMBALL—		
Amerada-Stanolind, A. Metzler 3....	527	5587
Humble, M. Gossett 3	350	5556
C. H. Muller 2	350	5556
Scherer 2 .....¶2½		5579
AUSTIN COUNTY—		
Paul English, F. Luhn 1, se of Kenney, D. Chandler sur	*	lcn.

*Failures; †Junked; ¶Million cu. ft. gas.

241 TEXAS PERMITS

East Texas activity slow due to delaying approval

Austin, Texas.—Permits for 241 new wells to be drilled in Texas were approved by the Railroad Commission last week, as compared with 242 allowed the week before. This static condition is caused by delay in approving more than 100 applications for new wells in East Texas, which are pending.

North Texas reported 64 new locations, more than any other district. This included 35 permits for Archer County and 24 for Young County. In the adjacent West Central Texas distict seven new permits were listed.

The East Texas area listed 54 new wells. There were 21 in Gregg County, 17 in Rusk County, 12 in Upshur, three in Smith County and one in Cherokee County.

NEW WILLIS TEST

Montgomery County area to get another try

Houston.—Gholson et al's A. Parks 1, northwest of Willis, J. Lindley Survey, Montgomery County, was tearing the derrick down to move over to a new location for the third test made in the area. It is reported the operators will drill Mid Tex Oil Company's Delta Land & Timber Company 1, 2578 feet north of the south line and 1575 feet east of the west line of R. T. Oliver Survey, on a 371-acre tract. The well is located to the west of Willis in Montgomery County.

During the past week the Gholson had A. Parks 1 shut in, and the pressure built up to 350 pounds. When opened the well made several heads of oil, and then would go dead. The fluid would rise to about 3000 feet in the hole. Another test will be drilled in the area to determine whether or not a new oil field is discovered.

In the Splendora area, Montgomery County, Paul Sanders et al's Texas Long Leaf Lumber Company 1, Walker County School Land Survey, in center of the east 20 acres of the south half of Block 6 of Steen Subdivision, was drilling ahead in shale at 4320 feet at the close of the week after a reported showing of gas. The gas show has not been confirmed.

In Liberty County, W. C. Peveto and Mayo have made location for C. T. Palmer 1, 330 feet north of the north line of Clayton Harper Survey and 250 feet west of the west line of Magnolia Petroleum Company's C. T. Palmer 300-acre lease on a 20-acre tract in the Jas. Fenner Survey A-441. The well will be drilled to the northwest of Cleveland.

Three miles north of Hardin in Liberty County, Jack Frazier was preparing to test Lynott Buffon 2, at 7550 feet. The wildcat is located 466 feet west of the east line and 466 feet north of the south line of southeast 60 acres in J. Robeson Survey.

27 COAST WELLS

Houston.—Completions along the Texas Gulf Coast during the past week showed an increase of that of the previous week. The total number of completions in the area the past week totaled 27 and of that amount 17 resulted in producing wells with a daily output of 5138 barrels. There were two gas wells reported and eight failures.

Coast Depth Record

IS MADE BY ROANOKE TEST WHICH IS AT 10,018 FEET

Lake Charles.—A new deep drilling record was added to the Louisiana Gulf Coast during the past week when Shell Petroleum Corporation's Jarnigan 1, passed the 10,018-foot mark, and was coring ahead.

The previous deep record was held by Superior Oil Producing Company's Martinez 1, in the Bosco field of Acadia and St. Landry Parishes when the well was junked and abandoned at 10,002 feet.

Jarnigan 1, is coring deeper, and the ultimate total depth is not determined. The operators set seven-inch casing at 9985 feet as protection. The casing string weighed 148 tons.

The deep test is located in Section 12-9s-8w, 660 feet due east of the discovery well for the Roanoke field, Jefferson Davis Parish.

Another producer was added to the Roanoke field at the end of the week, when Shell Petroleum Corporation completed Kratzer 4, Section 12-9s-7w, 1000 feet southwest of the discovery well, and 1000 feet north of Kratzer 2. The well came in for 150 barrels per day, showing 15 barrels of water through a 8/64-inch choke. Tubing pressure was 1000 pounds, and casing pressure 950 pounds. The bottom of the hole is 7839 feet.

Humble Oil & Refining Company's Thomas 1, 2200 feet south and 2200 feet west of the northeast corner of the north half of Section 11-9s-4w, west offset to Humble Oil & Refining Company's M. Kratzer 1, was drilling below 9691 feet.

To the north of China, in Jefferson Davis Parish, Humble Oil & Refining Company has taken a 10,000-acre geophysical block for six months.

DEFINE ONE FIELD

And extend another in Calcasieu Parish

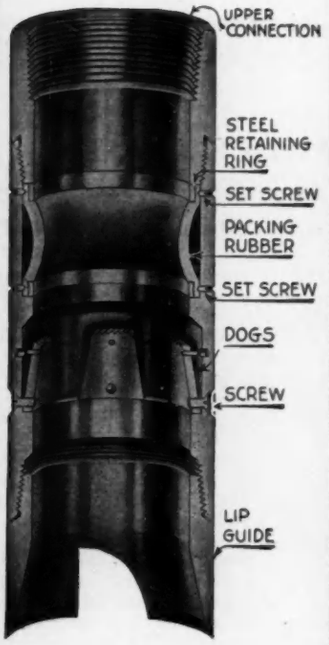
Lake Charles.—The Gillis field Calcasieu Parish, was defined 1000 feet south of the discovery well, and the English Bayou pool was being extended south approximately 1000 feet with Union Sulphur Company and Fohs Oil Company each completing a test.

Union Sulphur Company's Buhler 1, 1485 feet north and 609 feet west of the southeast corner of Section 11-9s-8w, was completed as a dry hole at 6902 feet, after plugging back from 7888 feet. The well encountered several good bodies of sand, but they contained no oil. The sands showed salt water. The well also was the deepest well to be drilled in the field.

Fohs Oil Company's Wasey 1, 275 feet each way out of the northeast corner of the SE¼ of Section 14-9s-8w, was setting seven-inch casing at the close of the week at 7036 feet,

Don't Wait

until the fish has time to get stuck, resulting in a long-drawn-out, costly fishing job and possibly loss of the entire investment in the well.



Keep A GRAY OVERSHOT

right on the derrick floor ready to pick up the fish before it gets stuck.

•

A simple... safe... efficient... fool-proof tool

POSITIVELY RELEASABLE

GRAY TOOL COMPANY Houston, Texas.

after making a drill stem test that showed oil. The test was made at 7074 feet, with the seat at 7036 feet. The test was made in 12 minutes, and showed 12 fourbles of oil. The operators lost an estimated 15 to 25 fourbles while releasing the pressure. The test was made through a five-sixteenths-inch choke on top and a quarter-inch choke on bottom. Pressure showed 350 pounds. The well had a gas sand from 7001 to 7025 feet.

Fohs Oil Company's Airhart 1, quarter of a mile west of Wasey 1, Section 14-9s-8w, was drilling below 6135 feet at the close of the week.

Union Sulphur Company's State 9, northwest offset to The Texas Company's Nickerson Fee 2, Section 12-9s-8w, was setting seven-inch casing on top of the oil sand at 6740 feet at the end of the week with the bottom of the hole at 6755 feet.

Union Sulphur Company has made location for Castle 3 in the Gillis field.

TWO BOSCO WELLS

Completed last week; one extends field north

Lake Charles.—Two new producers were added to the Bosco field of Acadia and St. Landry parishes during the past week. Superior Oil Producing Company's Doningue 2 and Larcade 6 were both completed in the Marginulina Sand.

Larcade 6, came in for a producer to extend the field to the east and north. The well on the first five-hour gauge 9-64-inch choke, with 525 pounds on the tubing and no pressure on the casing. The well is producing from the Marginulina sand at 8662 feet.

Domingue 2, flowed 226 barrels in 18 hours from the same sand as Larcade 6, with the bottom of the hole at 8610 feet. The flow was through 9-64-inch choke with 1150 pounds on the tubing.

Superior Oil Producing Company has made location for E. Arceneaux 2, 3824 feet north and 680 feet east of the southwest corner of Section 35-8s-3e. The same operator's L. Prejean 1, is located 1999 feet north and 676 feet east of the southwest corner of Section 35-8s-3e.

SOUTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth.
BOSCO—		
Superior, Domingue 2	312	8610
Larcade 6	336	8682
CAMERON MEADOWS—		
Magnolia, Cameron Meadows 5 (wo)	252	3926
EAST HACKBERRY—		
Gulf, M. P. Irwin 18	200	6930
GILLIS—		
Union Sulphur Co., Buhler 1	*	7888
JENNINGS—		
Ratcliffe Oil Co., Keougham 1 (wo)	130	1852
Port City Oil Co., Haywood 15 (wo)	130	1845
LAKE BARRE—		
Texas Co., Lake Barre 14	*	2532
Lake Barre 15	*	4024
LEESVILLE—		
Gulf, L. Bernard 10	*	....

*Failures; †Junked; ¶Million cu. ft. gas.

WILDCAT OIL SHOW

Test near Plain Dealing logs sand at 2838 feet

NORTH LOUISIANA

WEEKLY STAFF REPORT

Shreveport, La.—Four and one half miles southwest of a five-million-foot gasser completed in wildcat territory near Plain Dealing, Bossier Parish, by Plain Dealing Syndicate in L. A. King 1, NE NE 36-23n-13w, at 2842 feet, a wildcat test last week showed oil in 3½ feet of sand logged under cap rock topped at 2835 feet. It is Richplain Oil Company's Gaines 1, NW NW 22-22n-13w; total depth 2842 feet. Six-inch casing was cemented at top of the cap rock.

The latter test is 164 feet north of Scovell and associates' Gaines 1, in the same section, that in 1917 blew out and flowed oil for a short time and then sanded over and defied efforts at reviving it.

The present location is on a block of 2770 acres. Plain Dealing Syndicate is arranging to make location for an offset to its recent gasser. It is on a 12,000-acre block and formation from which the gas is coming is possibly Tokio as is the sand encountered in the Richplain Company's test.

EIGHTEEN PERMITS

Shreveport, La.—Eighteen drilling permits were issued last week by the minerals division, Louisiana Conservation Commission. Five of the permits were for North Louisiana in the following parishes: Bossier, two; LaSalle, one, and Sabine, two. Those in south Louisiana were divided among the following parishes: Calcasieu, one; Cameron, one; Iberia, five; Jefferson Davis, two; Plaquemines, two, and Terrebonne, two.

TWO NEW WILDCATS

Are among five locations made in North Louisiana

Shreveport, La.—Two wildcat tests were among five new locations announced last week in North Louisiana. In Catahoula Parish, eight miles northwest of where a small shallow gasser was completed at base of the Jackson at the 900-foot level several weeks ago, McIntyre and Associates have spudded Tensas Delta 1, SW NW NW 18-10n-6e, and are drilling at 200 feet.

In Bossier Parish, Producers Oil and Gas Company (Will Hall and associates) have derrick up for E. C. Edwards 1, SE SW 27-18n-11w, four miles northeast of W. H. Werner 1, Section 7-17n-11w, completed several months ago to extend the 4200-foot producing horizon of the Sligo gas field 1½ miles northeast. The new location is on a 2,000-acre block of leases, and while contract depth is only 3000 feet it is expected to go to the 4200-foot level unless production is secured above.

The other new locations are: The Leonard Company's M. A. Dickson 2, located 1830 feet south and 1650 feet east NWc 36-21n-15w, Caddo Parish, rigging; Southern Carbon Company, Tensas Delta 16, located 3960 feet south and 1940 feet east NWc 34-21n-4e, Morehouse Parish, and Maury Drilling Company's E. Frierson 5, SW NW 29-19n-4e, Ouachita Parish.

In south Caddo Parish, adjoining a block on which F. D. Hyde and associates are drilling a test in Section 5-15n-15w, Industrial Mortgage Company has acquired 14 oil and gas leases aggregating 1504 acres in townships 15 and 16 north, range 15 west. Hyde and associates have assigned eight of their leases to Industrial Mortgage Company.

I. W. Adams is assembling a block of leases centering in Section 4-13n-16w, DeSoto Parish, about four miles south of a test drilled to 2645 feet in A. D. Johns, Jr., 1, Section 20-14n-16w by E. B. Bird and associates.

Just across the Texas line in Harrison County, I. W. Adams and E. B. Bird on the same block on which Bird's DeSoto Parish test was drilled, have erected derrick for Washburn Lumber Company 1, F. Jordan Survey. The original block acquired from A. D. Lynch of Little Rock, Arkansas, was 4700 acres but some acreage has since been added.

SEVEN COMPLETIONS

North Louisiana gets two oil, two gas, three dry wells

Shreveport, La.—Two small oil wells, two small gassers and three wildcat failures comprised North Louisiana's list of completions last week. Both oil wells were in the northeast offshoot of the Pine Island field, Caddo Parish. One was completed at 1514 feet flowing ten barrels of oil daily by heads after using acid in the chalk at that depth.

Both of the gassers were in the Monroe field, one in Morehouse and one in Union Parish.

NORTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH (Pine Island)—		
Nick Babare, Gibbs 1, sw ne se 16-20n-15w	20	2265
Hillman et al, J. S. Noel Est. 1, ne ne 12-20n-16w	10	1514
CADDO PARISH (Greenwood)—		
R. E. Davidson, E. F. Wilkerson 1, ne ne 9-17n-15w	*	970
MOREHOUSE PARISH (Monroe)—		
Carbons Consolidated, Archie 2, nw sw 22-20n-4e	¶7	2135
RED RIVER PARISH—		
Sterling O&R Co., Long-Bell Lbr. Co. 1, se ne se 19-13n-9w	*	3004
SABINE PARISH—		
Tex-La-Ark Oil Co., Pickering Lbr. Co. 1, ne sw 3-3n-12w	*	2742
UNION PARISH (Monroe)—		
W. B. Inabnet, Fee 1, ne nw 11-20n-3e	¶2¼	2177

*Failures; †Junked; ¶Million cu. ft. gas.

DEEPER GAS SAND

Sligo field outpost test finds sand at 4437 feet

Shreveport, La.—Three-fourths of a mile southwest of the nearest of four gas wells in the lower Cretaceous in the Sligo gas eld, Bossier Parish, Triangle Drilling Company's State of Louisiana 1, NW NW 23-17n-12w, last week showed slightly over 20 million cubic feet of gas when formation tester was run at 4437 feet. Operators immediately set a string of 9⅝-inch casing at 2642 feet, and a string of seven-inch casing at 4164 feet, and will drill in soon. This is approximately 200 feet below the level of the other four Cretaceous gas producers.

One mile north of production in the Rodessa gas field, Caddo Parish, United Gas Public Service Company's Young 1, SE SE 21-23n-16w, was coring last week at 5995 feet still in the oolitic lime horizon of the Glen Rose which produces from 5500 to 5950 feet in that field. The same company's D. F. Barr 1, Section 29-23n-16w, last week was drilling at 5409 feet.

THREE NEW STARTS

Are made the past week by Arkansas operators

ARKANSAS

WEEKLY STAFF REPORT

El Dorado, Ark.—Three new locations were made last week in Arkansas. Less than a mile north of production in the Garland City field, Miller County, where Lee Timberlake last week abandoned a dry hole at 3100 feet, he made location for Frost Estate 2, SW SW SE 27-15-26, spudded and cemented 10-inch casing at 80 feet. The well is 20 feet west of the other hole.

In Ouachita County near Camden, where the same operators have drilled four offsets to a small pumper completed at 1394 feet in Nacatosh without getting another producer, T. J. Gaughan and associates are rigging M. Bragg 4, NW NE NE 26-13-18.

Offsetting a test that was junked and abandoned last week after an oil show in Taylor sand, Ohio Oil Company made location for Sam Oliver 2, NW SW SW 7-17-13, two and one-half miles east of production in this horizon in the Rainbow City field, Union County.

90-BARREL WELL

El Dorado, Ark.—A 90-barrel daily oil well in the Urbana district, Union County, was the only commercial well of three completions last week in Arkansas. The well, McCreslenn Oil Company's Parker 2, SE NE SE 3-18-13, is flowing through two-inch tubing from 3583 feet. Outside tests in the Garland City (Miller County) and the Smackover (Ouachita County) fields were failures.

ARKANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MILLER COUNTY (Garland City)—		
Lee Timberlake, Frost Est. 1, sw sw se 27-15-26	*	3100
OUACHITA COUNTY (Smackover)—		
Texas Drilling Co., J. T. Arnold 1, sw sw nw 24-15-16	*	2438
UNION COUNTY (Urbana)—		
McCreslenn Oil Co., Parker 2, se ne se 3-18-13	90	3583

*Failures; †Junked; ¶Million cu. ft. gas.

GEOPHYSICAL WORK

Parties continue to scout in southeast states area

SOUTHEASTERN STATES

WEEKLY STAFF REPORT

Jackson, Miss.—A seismograph party employed by Gulf Research Company is working in Stone and north Harrison counties in south Mississippi, south of a recent abandonment at 7443 feet of a test by Gulf Refining Com-

I'M SAFETY MINDED

"Working around the tanks, I've always felt as if I were sitting on a powder keg, especially when I was gauging by the old hand method. My family used to worry about it a lot because they knew that just one little spark or a shot of gas meant 'curtains' for me. Since the company equipped all of the tanks with S. & J. Automatic Tank Gauges and Conservation devices I feel safer at work than I do at home.

"I used to work in the refinery and I have been thoroughly schooled in safety rules. Thats' why I got the jitters when I had to climb around the storage tanks. One day I told the chief that he ought to extend his safety campaign to the tank farm. I showed him where we were wide open to explosions. He took my advice."

Workmen who are surrounded by safety devices become safety conscious. When they see how much the company spends to make working conditions and equipment safe, they are usually willing to do their part. S. & J. offers the most complete line of petroleum tank safetv and conservation devices on the market today. Individual units and complete system assemblies are illustrated and described in our Catalog No. 52-B. Write for a copy today. Your catalog file is incomplete without it.

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• S H A N D & J U R S •

pany in Stone County. The same company has a magnetometer party working in Pearl River County, south Mississippi and a pendulum party in Livingston Parish, southeast Louisiana.

Gulf Refining Company is reported leasing in St. Tammany Parish, where it already has large holdings.

A seismograph party employed by United Gas Public Service Company for some time checking its large leases in Greene and George Counties, south Mississippi, has left that area. Arkansas Fuel Oil Company had a party in Washington County, Alabama, recently, but it has also left, although the company is still making some core hole tests in that area.

Humble Oil & Refining Company has started its second core hole on a block in Jefferson Davis County, Mississippi, and Sun Oil Company is drilling its tenth core hole in Lamar County, Mississippi, the latter location being in Section 31-4n-15w, and Humble's latest core hole is in 27-7n-18w.

NEW LOCATIONS

Mississippi and Florida get one new start each

Jackson, Miss.—Two new locations were announced last week in the southeastern states, one in Mississippi, and one in Florida. In the northern part of the Hinds County part of the Jackson gas field, Weaver and Alexander have derrick up for Walthall 2, NEc east half SE 25-6n-1e. In Pinellas County, Florida, Dr. Edward A. Hill is moving in for a test 300 feet south and west NEc 2-27s-16e.

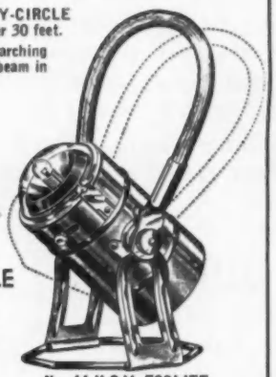
El Dorado, Ark.—One drilling permit was issued last week by the Arkansas Board of Conservation. It is Ohio Oil Company's Sam Oliver 2, 385 feet south and 950 feet east NWc SW SW 7-17-13, Union County.

NO MORE SHADOW BOXING!

Ecolites

. . . *two-point* visibility

1. A VISIBILITY-CIRCLE nearby of over 30 feet.
2. A strong searching SPOTLIGHT beam in the distance.



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Cut Bank Outpost

PRODUCER PROVES BIG AREA AND WILL STIMULATE WORK

ROCKY MOUNTAIN FIELDS

WEEKLY STAFF REPORT

Cut Bank, Mont.—Approximately 20 sections of land between The Texas Company's State 1, Cut Bank outpost well, and the nearest Cut Bank production to the north, was definitely proved as a better than average Cut Bank area when Montana Power Gas Company's Bonnet 1, NE SW 4-32n-5w, swabbed in 175 barrels in the first 11 hours this week and shut down for additional storage.

The well logged the producing sand between 2900-20 feet, which was considerably higher than was expected at this location. Total depth is 2924 feet with hole bottomed in the Ellis. The Texas Company's State 1 was completed at 3008 feet. The new well is expected to give added impulse to the Cut Bank drilling campaign in which 35 operations now are under way.

LANCE CREEK FIELD

Two wells near objective in Sundance, one starts

Lusk, Wyo.—Two wells are nearing the completion stage and one well started this week for the Sundance horizon in the Lance Creek field, Niobrara County, eastern Wyoming.

Ohio Oil Company's Elizabeth Lamb 2, NE NW NE 5-35n-65w, is drilling at 3213 feet, about 200 feet from its objective, the Sundance. Same company's Carrie Putnam 4, SW SW 33-36n-65w, has derrick up and is waiting on rotary tools.

Continental Oil Company's Schuricht 2, CSE NE 6-35n-65w, is a second near completion drilling below 3000 feet.

Argo Oil Company has moved rig from its recent completion, Elliott 3, to Elliott 4, CNE NW 5-35n-6w.

BIG MUDDY FIELD

Contract let for test to go to Tensleep formation

Glenrock, Wyo. — Continental Oil Company is letting contract for a deep projected test to lower unexplored horizons in the Big Muddy field, Converse County, central Wyoming, which has produced more than 24,000,000 barrels of light oil from the Wall Creek series since its discovery, 15 years ago.

The well, State 60, NW SW NE 9-33n-76w, will test for oil in the Sundance and will go to a total depth of around 6000 feet to explore the Tensleep horizon. The well is on land leased to Continental Oil Company by Elkhorn Oil Company of Casper under operating agreement.

In the same field, Continental Oil Company's Whiteside 9, W½ NE SE 7-33n-76w, is drilling at 2216 feet.

HOT SPRINGS COUNTY

Thermopolis, Wyo.—California Exploration Company's Government 2, W½ SW NW 7-44n-96w, in the new Waugh Dome black oil structure, Hot Springs County, is drilling at 1432 feet.

Argo Oil Company's Ellen 16, NE SE 14-44n-98w, Hamilton Dome black oil field, Hot Springs County, is drilling at 2200 feet.

ROCK RIVER

Rock River, Wyo.—Ohio Oil Company is ripping liner in Diamond Cattle 4, SW NW 35-20n-78w, preparatory to deepening the well to the new Sundance pool in the old Rock River field, Carbon County. The well was completed in 1921 for 400 barrels initial in the Dakota sand with total depth at 2822 feet.

PONDERA COUNTY

Second wildcat started in orderly drilling of blocks

Valier, Mont.—A second wildcat for the Valier area, Pondera County, 15 miles south of the Cut Bank field along the shoreline trend, was started this week. Norden Corporation of Calgary, Alberta, Canada, is moving in material for Emerick-Ritchey 1, NW NW 12-28n-6w, seven miles south of here on Valier dome.

The structure was originally mapped by E. B. Emerick, who made the initial geological surveys of the Pondera and Bannatyne fields. Emerick holds jointly with J. E. Ritchey of Conrad, Montana, 12,000 acres covering the structure, which they leased to Norden Corporation. The wildcat has as its objective the Cut Bank sand at around 3000 feet.

The Texas Company's 1-Unit-5, CSW

SW 3-30n-5w, Pondera County, recent wildcat start three miles northwest of Valier, is drilling at 250 feet with cable tools. The well is located on a block of 18,000 acres. The block is subdivided into five divisions for orderly development under the unit plan of operation.

BYRON FIELD

Lovell, Wyo.—Ohio Oil Company has four rotary wells under way in the Byron field near here in Big Horn County. Sidon Canal 2, Lot 40, SW SW SW 24-56n-97w, is drilling at 4678 feet. Byron Union 3, SE NW NE 22-56n-97w, is drilling at 2515 feet and Byron Union 4, SW NE, same section, is rigging up. P. G. Sessions 3, northwest corner 33-56n-97w, is building derrick.

QUEALY DOME

Laramie, Wyo.—The California Company is starting two wells on the recently proved Quealy Dome light oil field, 25 miles northwest of here in Albany County. The company is rigging up rotary for Wilson 1, CNE SW 18-17n-77w, and Holst 2, CSE NW SE 13-17n-77w. The discovery well, Holst 1, NE SE SE 13-17n-77w, pumped 600 barrels initial from the Dakota sand at 3231-56 feet last April and has been shut down after filling storage.

PARK COUNTY

Frannie, Wyo.—Continental Oil Company's Northern Pacific 3, SW SE SE 23-58n-98w, Park County, northern Wyoming, is drilling at 1981 feet.

ROCKY MOUNTAIN Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
NEW MEXICO		
LEA COUNTY (Eunice Field)—		
Skelly, State 3-B, c ne nw 16-21s-36e	2500	3893
LEA COUNTY (Hobbs Field)—		
Continental, State 1-B-13, c se sw 13-18s-37e	5875	4035
LEA COUNTY (Monument Field)—		
Shell, State 1-E, c se se 35-19s-36e	1200	3929
EDDY COUNTY—		
Fred Brainard, Fee 1, nw ne 2-17s-27e	*	2172
Coronado Oil Co., Anderson 1, cne nw 18-20s-28e	*	1462
MONTANA		
GLACIER COUNTY (Cut Bank Field)—		
Katley & Drumheller, Ward 2, lot 2, 10-34n-6w	30	2965
Katley et al, Thronson 1, se 25-35n-6w	45	2791
Texas Co., Hagerty 1, cse ne 9-34n-6w	15	3004
TOOLE COUNTY (Kevin-Sunburst Field)—		
New Era Fuel Co., Lorenson 7, nw ne 27-35n-2w	8	1508
LIBERTY COUNTY—		
J. H. Hamilton, Northern Farms 1, ne sw 10-37n-5e	40	2879

*Failures; †Junked; ¶Million cu. ft. gas.

Field Work Expands

IN LEA COUNTY AREAS WITH 17 NEW STARTS AUTHORIZED

WEEKLY STAFF REPORT

Hobbs, New Mexico.—Expansion of field work in the Hobbs, Eunice and Cooper areas, Lea County, within the past two weeks has resulted in 17 new starts being authorized by majors and independents. An expenditure of approximately $700,000 for labor, equipment and miscellaneous items will be required for the completion of these new projects, which will average slightly more than $40,000 each.

Development of an estimated flow of 55,000,000 cubic feet of dry gas production by The Texas Company's Saunders 1, C SE SW 18-19s-37e, situated 3½ miles northeast of nearest production in the Monument field, tends to confuse the geologists in doping out the probable trend of production. This outpost blew out at 3900 feet, or 207 feet below sea level, but the contractor was prepared for the emergency and was successful in killing the flow. Although a series of gas horizons were logged in the upper lime section by the three completed oil wells in the field proper, none afford a volume comparable with Saunders 1, which is about 168 feet lower on top of the brown lime marker when correlated with the closest producer. Geological markers logged by each of the five tests underway in the field are listed under the New Mexico wildcat report in this issue. The report reveals that Amerada Petroleum Corporation's H. F. Andrews 1, C NW NW 12-20s-36e, one mile south of its discovery well, occupies the highest structural position in logging top of anhydrite at 933 feet, or 2643 feet above sea level.

Drilling operations have been halted at two more wildcat projects in Lea County due to encountering sulphur water in lime section expected to yield oil or gas production. Amon G. Carter et al's G. H. Mattix-Conoco 1, C SE NW 3-24s-37e, 5¼ miles northeast of the Cooper field, struck water at 3935-40 feet in soft lime. It had previously indicated a 35-barrel oil producer in sandy-lime section between 3574 and 3654 feet, with an elevation of 3258 feet, and will be plugged back for a shot of nitro. Anderson-Prichard Oil Corporation's Fisher 1, C SE NE 8-20s-35e, scored increase in water from lime at 4325-75 feet, with an elevation of 3690 feet, and will likely be abandoned.

Natural flow of 60 barrels of oil per hour, with a gas-oil ratio of 550 feet per barrel, was developed by Humble Oil & Refining Company's A. E. Thomas 1, C SW SE 23-24s-36e, an east side well in the Cooper field, after re-drilling hole from 3470 to 3500 feet and installing packer on tubing at 3400 feet. This well was originally completed last November as a 7,500,000-foot gasser after plugging back from sulphur water at 3602 (minus 262) feet to 3470 feet, and developed oil last March through gas withdrawals. No oil shows were reported in drilling and coring the original hole down to the water table. Humble is proceeding with the completion of its Coates 1-A, drilled as a relief well on the north end of the Cooper field to kill its Coates 1, which was out of control for more than six months. Location has also been made for Coates 3, C NW NW 10-24s-36e.

Renewed activity in the Eunice field is centering on the north and south ends of the structure, with three tests underway in the south portion. Jim Murray et al's W. J. Wallace-State 1, situated 2970 feet from south and 330 feet from west lines of 3-21s-36e, is more than one mile northeast of nearest production.

Correction issued the past week by E. G. Staley, state umpire, reveals that the average bottom-hole pressure in the Hobbs field, based on a survey conducted in May, has declined to 1258 pounds. Potentials have been adjusted to a 70-pound drop in bottom hole pressure, instead of the 67-pound slump as previously recorded.

Allowable production for individual wells in the Lea County fields remained virtually unchanged the past week, with all except the Hobbs field prorated to 145 barrels daily each. The 228 completed wells in the Hobbs field have an allowable of 31,394 barrels daily. Shell Petroleum Corporation is buying the bulk of the Hobbs' output, having increased its purchases beginning July 1 to 25,754 barrels daily, with Humble Oil & Refining Company lowering its takings from 2734 to 1074 barrels daily. Atlantic Petroleum Purchasing Corporation will continue to absorb 4500 barrels daily, while the Walker Oil Corporation's local plant is refining the company's 66-barrel daily allowable.

HIDDEN DOME

Worland, Wyo.—A first report from the Hidden Dome field, Washakie County, northern Wyoming, is the Nystrom Smoots Syndicate's State 2, SW NE NE 36-48n-90w, which is digging cellar.

Mountain View

ONE LEASE HAS POTENTIAL RATING OF 31,500 BARRELS

WEEKLY STAFF REPORT

Los Angeles.—Hancock Oil Company's Miller lease of 160 acres at Mountain View near Bakersfield, in Kern County, now has seven wells with an estimated potential of 31,500 barrels a day and an allowable of 126,000 barrels a month. Voluntary proration is being strictly adhered to by the company.

The last completion was Miller 7, which established a potential of 9940 barrels of 25.5 gravity clean oil. The bottom is at 5346 feet with 8⅝-inch casing cemented at 5093 feet. The liner included 253 feet of perforated, which takes in both the Chanac and Santa Margarita formations, but it is thought no production is coming from the Santa Margarita, the lower formation, due to heavy pressure from the upper zone. The well, on a two-hour test, flowed at a rate of 11,400 barrels.

Hancock will drill other wells on the lease, and tentative locations call for a total of 32 wells, each well to be drilled to one or the other of the known two sands. The new well that attempted to produce from both sands failed to accomplish desired results.

Hogan Petroleum Company has taken over Bankline Oil Company lease in Section 4-31-29, but no announcement has been made as to future operations.

Sovereign Oil Corporation's San Joaquin 4 has been completed at 6173 feet for 875 barrels of 32.4 gravity oil in 13 hours. It is making 750,000 cubic feet of gas and the pressure on the casing is 240 pounds. It is flowing through 154 feet of 5¾-inch perforated pipe, landed at 6177 feet.

Wood-Callahan Oil Company has taken over the 30-acre P. F. Wells lease in the proved area at Mountain View and will start a well within the next few days. This tract is in Section 25-30-28. At least three wells will be drilled. It is expected the first well will drill to the Santa Margarita formation, and if it is not productive, test will be completed in the Chanac formation, which has been proved to be fairly prolific.

KERN FRONT FIELD

Los Angeles.—National Oil Company, Ross McCollum, president has recently purchased in fee 220 acres of proved land from the Boston Petroleum Corporation in the old Kern Front field in Kern County, and the 25 old wells on the lease will be reconditioned. Present production averages 150 barrels a day and it is expected the reconditioning work will considerably increase this amount. Most of the old wells will be cleaned out to bottom. New equipment is being installed and the entire lease is being modernized.

SEMITROPIC FIELD

This new California gas pool is becoming active

Los Angeles.—The new gas field in California known as Semitropic, located in Kern County, reports six wells drilling by four companies and five wells almost ready to spud.

Fullerton Oil Company recently completed No. 27-9 in Section 9-27-23, for 37,500,000 cubic feet of dry gas at 3150 feet, plugged to 3050 feet. Liner was landed on bottom and the gas is through 80 feet of 6⅝-inch perforated pipe. This company's No. 32 is drilling in blue shale at 2340 feet and No. 23 is preparing to spud.

Milham Exploration Company's Continental 22-15 in Section 15-27-23, stopped drilling at 3152 feet and is preparing to complete after running 6⅝-inch liner to bottom. String of 8⅝-inch casing was cemented at 3015 feet.

Standard Oil Company of California is drilling four wells and is preparing to start three others. Superior Oil Company has material on ground for Bradford 1 in Section 23-27-23.

Most of the completions are being shut in, awaiting pipe line to move the gas.

MT. POSO FIELD

Six new wells starting in this old district

Los Angeles.—Although only five wells are actively drilling at Mount Poso in Kern County, and one of these is on a production test, six others are getting ready to start drilling. Shell Oil Company is preparing to spud three new holes, Ohio Oil Company is rigging to start drilling Brown 2 and General Petroleum Corporation has rigs up for two new tests, both in Section 21-27-28. O. F. W. Oil Company's O. F. W. 1, Section 27-26-28, stopped drilling at 1421 feet and on a production test pumped at a rate of 150 barrels, but sanded up and is being cleaned out.

Stevens Oil Company's Mt. Poso 1 gave it up at 2631 feet and will abandon the hole. This hole is in Section 7-27-28.

Gilstrap & Kipp's No. 1, Section 28-27-27 stopped drilling at 2215 feet, landed liner, including 35 feet of perforated, on bottom, and will test.

BUILDING NEW TANKS

Los Angeles.—Petrol Corporation of California is erecting 200,000 barrels of new steel storage at Los Angeles Harbor, adding to its present harbor facilities used for storage for fuel oil and other products. E. W. Pauley denied rumors that his company had any plans to ship into California a cargo of Texas gasoline. This rumor had its inception in connection with a report that a tanker had been loaded at Houston with East Texas gasoline and is due in Los Angeles, July 7.

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
COALINGA—		
Standard, No. 37-13D	55	687
BUENA VISTA HILLS—		
Standard, No. 5-13D	125	3306
EDISON—		
A. T. Jergins, Tr., Smithwick 2	220	1050
MOUNTAIN VIEW—		
Hancock Oil Co., Miller 7	9940	5346
Sovereign Oil Corp., San Joaquin 4	1600	6173
MOUNT POSO—		
Shell, Mathews 3	650	1580
Texas Co., Glide 2-5	560	1713
Union, S & M 24	1030	1935
PREMIER—		
Ohio, Midway-Premier 5	200	2727
ROUND MOUNTAIN—		
Honolulu Oil Corp., No. 16	300	2282
SUNSET—		
Hallmark Oil Co., Lake View 2	250	2767
KERNELL—		
Trico O&G Co., No. 5	¶3.2	2460
SEMITROPIC—		
Fullerton Oil Co., No. 27-9	¶37.5	3150
VEDDER—		
Buckeye Union Oil Co., New Hope 1	75	1353
WHEELER RIDGE—		
Reserve O&G Co., Tejon Ranch 1	58	2666
ELWOOD—		
Caroline Spalding, No. 10, Permit 10	3650	3765
PIRU—		
Bachman Pet. Co., No. 14	100	5050
LONG BEACH—		
Shell, Wilbur 7	140	5101
INGLEWOOD—		
Shell, Rindge 18	1500	3885
Standard, L. A. Inv. 74	1100	4030
DOMINGUEZ—		
Union, Hellman 37	190	4466
VENICE—		
Colly Oil Co., Colly 2	4000	6450
WEST COYOTE—		
Standard, Emery 59	670	5804
SOLANO COUNTY—		
Trico O&G Co., Noonan 1	*	810

*Failures; †Junked; ¶Million cu. ft. gas.

CALIFORNIA PERMITS

Los Angeles.—Number of new wells starting in California continue to show an increase over the past two years. During the week ending June 22, total of 26 notices were filed, and this brings the total for the year to date to 472, compared with 265 for the same date last year.

TREND TO NORTHEAST

Crystal drilling in other directions discouraging

WEEKLY STAFF REPORT

Mt. Pleasant.—A northeast trend of the Crystal district in Montcalm County was further evidenced and strengthened this week with T. F. Caldwell's Robins 1, 10n-5w-3-ne ne, initialing 300 barrels in lime from 3193-94 feet. Deepened July 2 from 3194 to 3195 feet gas and oil was increased with production averaging 100 barrels an hour. This marked the first prolific production yet encountered in Crystal outside of tests directly west of the Durbin discovery.

The Caldwell-Robins is located one mile north and a half-mile west of the Durbin discovery (10n-5w-11.)

W. J. Bernier's Strait 1, 11n-5w-35, half-mile west and quarter-mile north of the Robins, topped lime July 2 at 3194 feet and was shut down at 3211 feet for a test after showing gas and bailing free oil.

Meanwhile other developments in the Crystal district, now carrying 30 active drilling tests, were less encouraging for major expansion other than to the northwest from the discovery.

Gordon Oil Company's Frost 1, 10n-5w-3, a mile due west of the discovery, drilled to 3206 feet, showing oil at 3199-01 and water at 3204 feet. Plugged back to the show, operators planned to tube and pump. The test may mark the west limit of the producing horizons.

J. W. Leonard Jr.'s West 2, 10n-5w-2, diagonal offset to the Durbin discovery, showed 1800 feet of oil and water at 3196 feet and is being tubed for a pump test. West 2 appeared similar to Eastern Gulf Oil Company's Barger 1, an east offset and direct north offset to the Durbin, which operators are still trying to complete after plugging off bottom hole water.

Snowden & McSweeny's Wight Estate 1, 10n-5w-10, a half-mile due west of the discovery, which initialed 1000 barrels daily when completed at 3195 feet on June 14, killed off with water on June 30. Operators are swabbing attempting to get the well back on production.

HOLDS PRODUCTION

Michigan above million sixth consecutive month

Mt. Pleasant.—Michigan crude oil production exceeded a million barrels in June for the sixth consecutive month to set a new all time state record. Total production the first six months was 6,918,000 barrels as compared to the 1934 total of 10,700,000 barrels. June output was 1,284,912 barrels, record month production for the state.

The state's potential production was estimated at 51,409 barrels as of July 1 by the Michigan Oil Producer's Committee, new voluntary control organization replacing the regulatory committee which served under the code. Personnel of the committee is the same, however. This was a drop of 20,000 barrels from June 1.

Porter district of Midland County produced better than 800,000 barrels per month the first half of the year, leading all other districts. For the first time since 1929, the Greendale-Chippewa district fell into third place in leading production areas. The new Crystal district with a total of 208,944 barrels ranked second to Porter with 832,957 barrels in June. Chippewa-Greendale totaled 104,312 barrels for June.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth.
MIDLAND COUNTY—		
Pure Oil Co., Naramore 9, 13n-1w, sw ne se-16	50	3410
Naramore 15, 13n-1w, sw sw ne-16	200	3419
Naramore 14, 13n-1w, nw nw se-16	95	3425
Fenby 1, 14n-2w, se sw-34	*	3560
Atha Oil Co., Moran 2, 13n-1e, se se-28	*	3700
ISABELLA COUNTY—		
Wittmer Oil Co., Curtiss 1, 15n-4w, nw se-2	12	3730
McClanahan Oil Co., McRae 1, 15n-3w-ne ne ne-13		3786
Gordon Oil Co., Graham 1, 15n-3w, sw ne sw-28	*	3645

*Failures; †Junked; ¶Million cu. ft. gas.

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EASTERN FIELDS

WEEKLY STAFF REPORT

Vincennes, Ind.—Knox, Gibson, Daviess and Pike Counties, former center of large production in Indiana, are again active in drilling operations and excitement is running high.

One "baby gusher," which hampered finishing of the well by forcing a full stream to the top of the casing, saveral wells producing from five to 80 barrels a day and the drilling in of one two-million cubic foot gas producer and four million-foot wells has added impetus to the activity started about April 1.

Seek More Gas

Located on the Erdell farm, C SW SW 23-25-9w, Gibson County, the "baby gusher" was drilled in an effort to obtain gas to meet the unprecedented demands being placed on local elds by increased use in Evansville, Vincennes, Washington and Princeton, Indiana.

In May, while producing a nice flow of gas, the well suddenly began flowing oil causing operators much trouble. A rig was brought in, the well was deepened 35 feet, but never shot because it began flowing immediately. In the first 18 hours it flowed 120 barrels of oil. The well is now flowing about 100 barrels per day although the flow is intermittent.

Within sight of the Erdell well, and vision is shortened in the hilly country where the well is located, five rigs now are operating. On June 26 a gas well, estimated at one million cubic feet daily was brought in about 2000 feet away.

About 300 feet from the well, on an adjoining farm, a well was shot June 28, but immediately capped and the result kept secret.

Most of the wells in Daviess, Pike and Knox Counties are finding gas in good quantities. Kentucky Natural Gas Company has started laying a pipe-line into the Oaktown field, northern Knox County, to supply gas from several large wells to its line leading from Kentucky to Terre Haute, Indiana. The line is about five miles long.

Intense rivalry has sprung up between Indiana Southwestern Gas Company officials, who furnish gas to retail companies in Evansville, Vincennes, Oakland City, Princeton, Washington and other smaller towns in this vicinity.

Since the rivalry became so intense during the past week or ten days all scouts have been kept away from operations and information on progress of most wells has been withheld.

Last week Kentucky Natural and Indiana Southwestern both announced revision of the "lone entry" contract of Indiana Southwestern Gas Company in Evansville. The new contract permits the Kentucky company to furnish 500,000 feet daily to the southern Indiana city until November 1, when the two companies will share the city's business on a 50-50 basis.

An increase of 25 percent in gas consumption in Evansvillle since January 1 caused Southern Indiana Gas and Electric Company to fear the heavy demands of the Evansville market would be more than the local fields of Indiana Southwestern Gas Company could produce. The change in contract followed.

Inclement weather during the past few months has delayed drilling operations which now are going ahead full blast. Even with the delay it is estimated that 25 producing wells have been drilled in since May first, 10 dry holes struck and seven holes have been shot and capped without any announced results.

EASTERN FIELDS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ILLINOIS		
CRAWFORD COUNTY—		
D. A. Funk, 10	10	....
OHIO		
ALLEN COUNTY—		
L. J. Pease, Tr., Leedy 6	30	....
LICKING COUNTY—		
Utica O&G Co., Shipley 3	*	504
McClay Bros., Bourne 1	120	2927
Preston Oil Co., Livingston 1	4	585
Long Prod. Co., Varner 2	79	3022
Ridgeway & Co., Carter 1	3	607
E. Ridgeway, Neibarger 1	2	618
G. H. Long, Fulton 3	5	706
KNOX COUNTY—		
Ohio F. G. Co., Phillips 1	20	2495
Upham Gas Co., Fry 1	*	....
Lower 5	¶	2907
J. B. Reed, McCoy 2	12	2585
Sterl Brown & Co., Ross 4	5	684
MEIGS COUNTY—		
J. L. Ledie, Sidenstricker 2	¶	....
Sidenstricker 3	¶	3033
Ohio F. G. Co., Cross 1	¶	1921
STARK COUNTY—		
East Ohio Gas Co., Fashnacht 2	¶	4581
GUERNSEY COUNTY—		
Ferguson & McCullough, Winnett 2.	¶	1351
Muhlback & Son, Stewart 9	¶	1486
MUSKINGUM COUNTY—		
Hopewell O&G Co., Dozier 3	¶	4147
MEDINA COUNTY—		
Ohio F. G. Co., Rohrer 1	*	2825
Lance 1	*	312
Smith 1	*	3172
Miller & Latshaw, Orth 1	2	....
Miller 7	1	....
J. A. Price, Robt. Bowman 2	2	420
E. R. Edson & Son, W. H. Wideman 28	*	517
D. A. Lake, L. A. Severcool 17	15	292
L. A. Severcool 18	15	290
L. F. McGrath & Co., Spitser 2	*	294
Spitser 3	*	300
Spitser 4	*	434
ATHENS COUNTY—		
Ohio F. G. Co., Smith 1	*	1134
Caplinger 1	¶	1114
Hawk 1	¶	781
Hawk 2	¶	500
Mosier & Co., Lightner 36	2	415

*Failures; †Junked; ¶Million cu. ft. gas.

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THE OIL WEEKLY REPORT ON IMPORTANT

Wildcat Tests

ALABAMA

BALDWIN COUNTY—Mrs. Mamie McCurry et al's Southern Kraft Co. 1, nw ne sw 28-2s-4e, wocs 12½ in csg 186 ft.

COVINGTON COUNTY—Geometer Prod. Co.'s A. B. Culbreth 1, sw sw ne 8-2n-14e, sd 6302 ft.

HOUSTON COUNTY—Rice O&G Co.'s Oakley Est. 1, sw ne sw 9-3n-29e, co 2772 ft, rock.

LAMAR COUNTY—De Soto O&G Co.'s Gardner 1, nw nw 22-15s-16w, dr 4425 ft, gray lime and chert.

ARKANSAS

ARKANSAS COUNTY — Grand Prairie Realty Co.'s Fischer 2, ne nw nw 6-6s-4w, sd for surf csg 120 ft.

CALHOUN COUNTY—The Hunter Co.'s Stout Lbr. Co. 1, nw ne 33-16-13, rur.

COLUMBIA COUNTY — J. G. Cubage's Rhea 1, sw se se 12-17-22, dk.

HEMPSTEAD COUNTY—F. W. Martin et al's Lafferty 2, se nw 17-14-24, dk.

LA FAYETTE COUNTY—W. H. Harvey's R. F. Allen 1, ne se sw 13-19-25, dk. S. H. Riggs et al's Du Bose 1, se sw nw 35-15-24, arr run formation tester, after reported so, td 2817 ft. Transportation Pet. Co.'s Cochran Est. 1, ne se 25-19-25, dk. Red River Lbr. Co. 1, sw sw 26-19-25, elev 250 ft, top Nacatosh 1804 ft, top Ozan 2740 ft, coring 4125 ft.

MILLER COUNTY—C. J. Hodges et al's Commercial Nat. Bank 1, sw ne se 30-17-28, dk. King Oil Corp.'s E. G. Anderson 1, nw sw ne 16-14-27, sd 2570 ft. Lee Timberlake's Frost Lbr. Co. 2, sw sw se 27-15-26, spd 10-in csg 80 ft.

MONROE COUNTY — Beaver Pet. Co.'s Stinson 1 (formerly Hickman 1), sw se sw 27-4n-2w, sd for 10-in csg, 190 ft.

OUACHITA COUNTY—T. J. Gaughan et al's M. Bragg 4, nw ne ne 26-13-18, rur. Snow-Black Pet. Co.'s O. F. Wyman 1, n½ sw 36-11-16, 10-in csg 100 ft, dr 1465 ft.

UNION COUNTY—Gulf Ref. Co.'s Werner Lbr. Co. 49, sw nw sw 5-16-16, 10-in csg 2293 ft, 7-in OD csg 6224 ft, sw at 6431 ft in lime, dr 6625 ft, red sand. H. L. Hunt, Inc.'s E. F. Gregory 15, se se 10-17-14, elev 180.4 ft, 7-in csg 5834 ft, base red beds 5937 ft, top Permian salt 6816 ft, pb and perf csg 3478 ft, blowing with air all sw, old td 6911 ft, Permian salt. Mrs. R. K. Jones' J. Davis 1, nw nw 28-16-14, sd 3255 ft. Ohio Oil Co.'s Sam Oliver 2, nw sw sw 7-17-13, lcn. E. O. Olds' Telford 1, nw nw 35-17-15, wosr, td 2211 ft.

CALIFORNIA

KERN COUNTY

ARVIN—General's Mattson 1, 1-32-29, dr sand and shale 5780 ft. Hall-Baker Co.'s Core hole 4-4, 16-31-30, pumping water and some oil 1270 ft.

BELRIDGE—Continental's Maylan 1, 7-28-20, sd 5304 ft.

BUENA VISTA LAKE—Shell's B. V. A. 1, 9-32-25, dr silty claystone 7244 ft.

CALIENTE CREEK—Hutcheson & Osborne O & H 1, 32-30-30, dr shale 480 ft. Geo. Sunday's No. 1, 5-30-30, dr boulders 200 ft.

DEVIL'S DEN—Amerada Pet. Corp.'s Beer 1, 17-26-19, dr brown shale 3705 ft.

GRAPEVINE—Silver Gate Co.'s Tejon 1, 7-10-19, dr hard sand 1144 ft.

KERN RIVER—D. D. Lucas' No. 1, 26-29-29, sd 519 ft.

KERNELL—Standard's Rideout 1, 34-24-23, r gray sandy shale 2380 ft; Widgeon 2, 12-25-23, coring gray sand streaks blue shale 4105 ft.

LOST HILLS—Standard's United 1, 2-26-20, dr sandy shale streaks gray sand 4543 ft.

SOUTH DOME—Continental's Gatchell 28-7, 7-25-20, rigging heavier equip to dr deeper from 6903 ft.

TEMBLOR HILLS—E. A. Bender's Shaw 1, 2-29-20, dr shale 916 ft.

WHEELER RIDGE—Reserve O&G Co.'s Tejon 3, 12-10-19, dr gray sand 880 ft.

MISCELLANEOUS

FRESNO COUNTY—Taft Well Dr. Co.'s Kreyenhagen 1, 33-22-16, dr gray sand 2912 ft.

HUMBOLDT COUNTY—Texas Co.'s Eureka 1, 1-3-2, td 6133 ft, plug 5800 ft, ran 130 ft 6⅝-in perforated, swabbing.

SACRAMENTO COUNTY—Great American Pet. Co.'s Howard 1, 25-2-8, dr hard gray sand 3011 ft.

SAN JOAQUIN COUNTY—Amerada's F. D. L. 1, 15-2-5, td 5875 ft, to set 13⅜-in.

TEHAMA COUNTY—Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, coring sand and shale 4450 ft.

TULARE COUNTY—Kabella Oil Co.'s No. 1, 12-23-27, fsh 817 ft. Kings River Oil Pool's No. 1, 29-16-23, fsh 3160 ft.

MONTEREY COUNTY

WEST PLEYTO—Shell's Branch 1, 34-24-10, dr gray and black shale 3498 ft.

SANTA BARBARA COUNTY

GOLETA—Shell's Hollister 1, 10-4-29, dr gray sand 833 ft.

LOMPOC—M. J. Freeman's La Brea 1, 11-7-33, r 1028 ft. Lompoc Pet. Co.'s Beauterbough 2, 18-7-34, sd 3515 ft.

VENTURA COUNTY

BARDSDALE—El Rancho Oil Co.'s Elkins 1, 9-3-19, sd 1083 ft. Union Oil Co.'s Dryden 1, 12-3-20, td 3336 ft, shale and oil sand, landed perforated liner, bailing.

CONEJO—International Oil Dev.'s Powell 1, 33-2-20, td 3060 ft, pulling 8⅝-in.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

* —*dry hole abandoned well.*	owdd —*old well drilling deeper.*
‡ —*salt water (completions).*	owpb —*old well plugging back.*
† —*junked and abandoned*	pb —*plugged back or plugging back.*
¶ —*million feet of gas.*	r —*reaming.*
abd —*abandoned.*	rog —*rig on the ground.*
bbls —*barrels.*	rur —*rigging up rotary tools.*
br —*building rig.*	rust —*rigging up standard tools.*
b.s. —*basic sediment.*	sd —*shut down.*
csg —*casing.*	sdtr —*sidetracking.*
co —*cleaning out.*	sg —*show gas.*
dd —*drilling deeper.*	si —*shut in.*
dk —*derrick.*	so —*show oil.*
dr —*drilling.*	so & g —*show oil and gas.*
fsg —*fishing.*	spd —*spudding.*
ft —*feet.*	sr —*straight reaming.*
hfw —*hole full of water.*	sw —*salt water.*
in —*inches.*	td —*total depth.*
lcn —*location.*	ur —*underreaming.*
m —*milling.*	wih —*water in the hole.*
mim —*moving in materials.*	wo —*workover.*
mit —*moving in tools.*	wocs —*waiting on cement to set.*
mot —*milling on tools.*	wosr —*waiting on standard rig.*
n, s, e, w, —*north, south, east, west*	
oih —*oil in hole.*	

FILLMORE—Texas Co.'s Unit plan 2-1, 29-4-19, lcn.

HOPPER CANYON—Oil Ridge Oil Co.'s Moran 3, 1-4-19, td 1660 ft, testing on pump.

LAS POSAS—Las Posas Pet. Co.'s Mahan 1, 22-3-20, td 8120 ft, wocs 8¼-in 7022 ft.

OXNARD—General's McGrath 1, (?)-1n-22w, rur.

SANTA PAULA—Edw. M. Lesperance's Boosey 1, 31-4-20, sd 1975 ft.

SESPE—Bankline Oil Co.'s No. 1, 36-5-20, bldg roads. E. R. McClellan's No. 1, 4-4-19, spud June 22. Sullivan & Roberts' No. 2, 28-5-19, rig. Supreme Oil Co.'s No. 1, 1-4-20, sd 305 ft.

SHIELLS CANYON—Henry R. Dabney's McGuire 1, 2-3-19, rigged to dr deeper from 500 ft. Texas Co.'s Shiells 128, 4-3-19, dr shale 7387 ft.

SIMI—Paloma Oil Co.'s Paloma-Marr 1, 12-2-18, dr hard sand 2070 ft.

SO MOUNTAIN—Calco Oil Corp.'s No. 2, 17-3-20, dr shale 1924 ft.

SOUTHERN CALIFORNIA

ARTESIA—Vanco Devel. Co.'s Millard 1, 25-3-12, dr shale streaks sand sg, 5290 ft.

BANDINI—West American Oil Co.'s Bandini 1, 17-2-12, dr sand and shale 4620 ft. Western Gulf's Vail 1, 16-2-12, dr hard shale and sand 5776 ft, little oil and gas shows at 5069 ft.

DEL REY HILLS—Wineco P&R Co.'s Mesmer 1, 26-2-15, foundations.

EL SEGUNDO—Republic Pet. Co.'s No. 1, 18-3-14, dr hard shale 5640 ft.

NEWPORT—Wilshire Oil Co.'s Newport 1, 29-6-10, dr shale 1356 ft.

PICO—Frontier Oil Co.'s No. 1, 12-2-12, dr sand and shale 3725 ft.

RICHFIELD—C. H. Shannon's Day 1, 21-3-0, td 5777 ft, shot 4¼-in at 2800 ft, plug 2257 ft, swabbing water and some oil.

SAUGUS—International Oil Developers' Powell 1, 34-5-16, td 4339 ft, plug 1650 ft, testing; Powell 2, 34-5-16, grading lcn.

COLORADO

ARCHULETA COUNTY — William E. Hughes estate's Fee 1, sw 24-33n-2e, mim.

BOULDER COUNTY—L. R. Steele's Maxwell 1, se nw nw 24-1n-71w, testing so at 1100 ft.

GRAND COUNTY—Colo. Oil Refining Co.'s Linke 1, ne sw sw 13-1n-77w, dr 1921 ft.

MORGAN COUNTY—Swisher et al's Lunt 1, sw sw sw 3-4n-60w, dr 675 ft.

PARK COUNTY — South Park Oil Co.'s State 1, se se sw 16-11s-75w, dr at 1450 ft.

PROWERS COUNTY—Trojan Oil and Gas Co.'s Lotus 1, nw ne ne, 15-23s-46w, dr cement at 5080 ft with td at 5227 ft.

FLORIDA

HILLSBOROUGH COUNTY — Southern Pet. Co.'s Mizell & Williams 1, 432s-25e, sd 2100 ft.

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 1, se se 17-24s-25e, 16-in csg 138 ft, 12-in csg 490 ft, tested 1 joint mud 1305 ft, after so and sg, base of anhydrite and gypsum 1600 ft, top chalk 1745 ft, base chalk 1860 ft, cored lime with so 1871-79 ft, arr sr and test, td 1879 ft.

PINELLAS COUNTY—Dr. Edward A. Hill, Fee not given, ne ne 2-27s-16e, mim.

KANSAS

BARBER COUNTY—Lario Oil & Gas Co. et al's Whelan 2, cse nw 32-31s-11w, td 4510 ft, running 5-in csg. Wentz' Skinner 1, cnw ne 29-31s-14w, dr 3330 ft. Southern Drlg. Co. et al's Davis 1, sw se ne 13-34s-15w, td 4664 ft, rust.

BARTON COUNTY—Pryor & Lockhart's Herrington 1, ne ne nw 6-16s-12w, td 3182 ft, ur 6-in csg. Lario & McCoy's Dolechek 1, ne nw ne 13-16s-12w, so 2925 ft, Lansing Ls. 2985 ft, hfw 3100-10 ft, so 3145 ft, td 3155 ft, ur 8-in csg. C. L. Price et al's Ehrlich 1, nw nw se 10-16s-13w, dr 1984 ft. Lario Oil & Gas Co. et al's Nuss 1, nw sw sw 11-16s-14w, td 3410 ft, pumped 8 bbls oil first 24 hrs, and 15 bbls oil second 24 hrs. Suppes & Witt's Hayes 1, nw nw nw 7-16s-15w, dr 1805 ft. Torry & Feaster et al's Feist 1, ne ne se 29-18s-11w, spdg. Palmer Oil's Morris 1, se nw ne 6-19s-15w, ru.

BUTLER COUNTY—Emerich et al's Heorman 1, swc 20-26s-3e, sd 1250 ft. Sanford et al's Cron 1, se se se 1-28s-4e, sd 2271 ft. Western Kansas O&R Co.'s King & Marshall 1, nw nw sw 11-28s-6e, spd 360 ft. Hay & Cameron's Johnson 1, nw nw se 16-26s-6e, base Miss. Ls. 3130 ft, dr 3145 ft. Polhamus et al's Semisch 2, cs½ ne ne 5-28s-7e, dr 1520 ft.

CHATAUQUA COUNTY — Central Oil's Crews 1, ne ne sw 8-32s-12e, sd 1600 ft.

CLAY COUNTY—Seidel Brothers' Younken 1, csl se nw 21-9s-4e, td 1781 ft, pb 1773 ft, hfw, sd.

COWLEY COUNTY — Lloyd, Frost &

Study's Weathered 1, sw se se 28-31s-3e, td 3406 ft, hfw, pb 3370 ft. Wakefield's Tharp 1, se se ne 10-32s-3e, dr 915 ft.

DICKINSON COUNTY—Dutch Oil's Phillips 1, cne nw 15-15s-1e, sd 2880 ft.

ELK COUNTY—Hicks et al's Lewis 1, sw se se 35-31s-10e, sd 1000 ft.

ELLIS COUNTY—Lewis Roark et al's Bemis 1, se se se 16-11s-17w, mim. Joe Aylward's Dreiling 1, se se se 3-14s-16w, dr 2215 ft. Helmerich & Payne et al's Kuhn 1, nw sw ne 16-14s-20w, dr 1760 ft. Palmer et al's Ruder 1, se ne nw 17-15s-18w, dr 2480 ft. Stanolind O&G Co.'s Penny-Wann 1, nw sw se 12-15s-20w, sso in core 3187-96 and 3196-3203 ft; sd 3254 ft, td.

ELLSWORTH COUNTY—Lario O&G Co. et al's State 1, sw sw sw 29-15s-8w, sd 3937 ft. Western Exploration Co.'s Wilkins 1, nw sw nw 9-17s-9w, top conglomerate 3240 ft, dr 3280 ft.

GRAHAM COUNTY—Helmerich & Payne et al's Stites 1, csw sw 8-10s-22w, 10-in csg 182 ft, dr 1330 ft.

HARPER COUNTY—Kessler & Their et al's Wolfje 1, sw sw ne 17-33s-6w, ru.

HARVEY COUNTY—Twin Drilling Co. et al's Ruth 1, sw sw sw 16-22s-2w, sd 3738 ft. Goering Bros. et al's Brainard 1, ne ne sw 3-23s-2w, sd 1320 ft. Winkler & Koch et al's Mueller 1, se sw nw 15-23s-2w, td 2710 ft, ur 8-in csg. H. H. & S. Oil Co.'s Frizzle (Buller) 1, ne ne se 31-23s-2w, 15½-in csg 172 ft, wocs. Lauck et al's Baller 1, sw sw sw 29-24s-1e, Sil. 3671 ft, td 3683 ft, hfw, D&A. Hartman & Blair's Redinger 1, nw nw 15-24s-3w, 15½-in csg 167 ft, td, wocs.

KINGMAN COUNTY—Kingman's Wetherall 1, ne ne sw 20-28s-10w, sso 3667-72 ft, coring 3672 ft.

McPHERSON COUNTY — Brosius et al's Hanson 1, ne ne sw 15-17s-2w, sd 1108 ft. Carey et al's Husband 1, se se nw 6-19s-3w, rig. Shell Petroleum Corporation's Wenger 1, ne ne ne 2-20s-1w, sd for pipe line. J. M. Washabaugh et al's Berg 1-A, sw sw ne 15-20s-3w, rog. Hollow, Toews, Hinkle's Aschman 1, nw nw se 8-21s-4w, ru.

OSAGE COUNTY—Jim Edward's Detrich 1, cnw se 21-14s-15e, sd 800 ft.

RENO COUNTY — Allison-Fitzwilliams et al's Dukelow 1, ne ne ne 11-22s-6w, ru and sd. Haynes Brothers et al's Mueller 1, es se nw 30-24s-4w, 7-in csg 3365 ft, td 3405 ft, wocs. Foraker et al's Hiett 1, se sw ne 34-24s-4w, sd 1285 ft. Gypsy Oil Co.'s Tonn 1, sw nw se 16-25s-4w, Viola Ls. 4016 ft, sg 4021-22 ft, td 4024 ft, running 6-in csg.

RICE COUNTY—Vickers Petroleum et al's Gouldner 1, se ne nw 16-18s-9w, td 3328 ft, pumped 180 bbls oil in 5 hrs, taking potential. Detrick et al's Conner 1, cne ne 28-19s-7w, mim. Anderson-Kerr's Wernet 1, nw nw nw 24-20s-6w, lcn. Detrick et al's Monroe 1, cne ne 9-20s-7w, bldg Std. rig. Anderson-Kerr et al's Lackey 1, ne se nw 13-21s-6w, KCL 2850 ft, dr 3234 ft. Fred Rust et al's Brown 1, ne ne ne 16-21s-6w, ru and sd. C. B. Teague et al's Hauschild 1, ne ne nw 15-21s-7w, c&p. Day's Mason 1, nw ne ne 28-21s-7w, sd 2510 ft.

ROOKS COUNTY—Gillespie & Son's Low 1, ne ne nw 12-6s-18w, loc. El Dorado Ref. et al's Marshall 1, cse se 8-7s-17w, cellar. I. W. Murfin et al's Wasthusin 1, ne ne se -9-9s-16w, rig. Smith-Ash's Nelson 1, nw nw ne 27-10s-16w, 15½-in csg 785 ft, dr 1248 ft. Tree Oil & Findeiss' Johnson 1, sw sw se 26-10s-19w, dr 2190 ft.

RUSH COUNTY—Lario, Madison & Hewitt's Gillig 1, ne se nw 24-17s-17w, dr 765 ft. Twin Drilling Co. et al's Appl 1, sw sw ne 29-17s-17w, 13-in csg 916 ft, sd 1230 ft. E. Dorado Relg. Co.'s Stang 1, se se nw 36-17s-17w, Oswald Ls. 3320 ft, so 3415-25 ft, 6-in csg 3498 ft, sg 3505-10 ft, so 3515 ft, Granite Wash 3550 ft, td 3577 ft, D&A. Boyle & Grossman's Wilson 1, ne ne ne 33-17s-19w, cellar. Ramsey Petroleum et al's Darkes 1, sw sw nw 5-17s-20w, dr 3000 ft. Boyle & Grossman et al's Yost 1, csw sw 23-17s-18w, 1 bailer water 3363-67 ft, KC Ls. 3380 ft, wtr 3380-90 ft, ur 6-in csg 3396 ft, hfw 3480-85 ft td. Flynn et al's Hartman 1, sw se nw 4-18s-16w, cellar.

RUSSELL COUNTY—Pryor & Lockhart's Spicer 1, ne ne se 21-11s-15w, ur 8-in csg, td 2170 ft. Hartman, Blair et al's Claussen 1, se ne sw 34-12s-14w, rog. Winkler Koch et al's Herman 1, se se nw 27-12s-15w, sg 2750-55 ft, Topeka Ls. 2755 ft, so 2760-80 ft, dr 2875 ft. Reserve et al's Moore 1, nw nw sw 15-13s-12w, ru and sd. Roth & Farrott's Shaffer 1, nw nw ne 31-13s-12w, cellar. Tom Palmer's Machin 1, sw sw se 9-13s-14w, cellar. McMorrow et al's Atherton 1, nw nw ne 30-13s-14w, dr 2210 ft. Stearns & Streeter's Dreling 1, sw sw sw 8-13s-15w, br. Hartman & Blair's Mills 1, se se sw 27-13s-15w, rog. Hartman & Blair's Rexroot 1, ne nw nw 31-14s-14w, so 2320-30 ft, 8-in csg 2400 ft, dr 2645 ft. Buffalo Oil's Kunz 1, ne ne sw 19-14s-15w, mim. Murfin et al's Gorham Estate 1, ne ne se 29-14s-15w, cellar. Wakefield & Armer's Hall 1, ne se sw 36-14s-15w, td 3176 ft, pumped 99 bbls oil first 5 hrs, testing. Brouk and R. D. Bailey's Kluesner 1, nw nw se 34-15s-12w, dr 1825 ft. Coraleana's Flegler 1, se se se 11-15s-14w, cellar. Nassau Oil Corp.'s Karst 1, nw sw ne 27-15s-14w, ru. Vernon & Murphin's Becker 1, ne ne ne 32-15s-14w, sd 2335 ft.

SCOTT COUNTY—Atlantic Oil Co.'s Mark "A" 1, cse se 28-20s-33w, Viola Ls. 5382 ft, coring 5570 ft, said to be running high.

SEDGWICK COUNTY — Dickey et al's Chase 1, se se se 11-27s-2e, ru. Derby et al's Bartholomew 1, sw sw nw 8-27s-4w, dr 1845 ft. Allison & Fitzwilliams et al's Struthers 1, ne sw sw 34-28s-2w, 8-in csg 3030 ft, td 3295 ft, dr by tools.

STAFFORD COUNTY—Empire Oil & Ref. Co.'s Grove 1, ne ne nw 5-22s-11w, td 2090 ft, ur 10-in csg. C. B. Davis et al's Riley 1, se se se 19-22s-11w, td 3606 ft, 2025 ft o.h, no test, Helmerich, Payne & Newbold's Geisler 1, nw nw se 28-22s-12w, td 3625 ft, wocs.

SUMNER COUNTY — Allison & Fitzwilliams et al's Hitchcock 1-B, se se nw 16-30s-1w, hfw 2620 ft, dr 2960 ft. Winkler & Koch et al's Belsley 1, sw sw nw 2-32s-2w, mim. D. J. Wilson et al's Clark 1, csl nw 15-35s-1w, sd 1000 ft.

TREGO COUNTY — Central Commercial's Wagg 1, nw nw se 17-13s-21w, co 1600 ft, td. Hansa & Lauck's Lang 1, se nw 1-14s-21w, td 3314 ft, set whipstock 2625 ft, fsg. Vickers et al's Secor 1, nw nw nw 25-15s-24w, mim.

WOODSON COUNTY — Connell & Marshall's Klick 1, sw nw sw 20-25s-14e, sd 90 ft.

NORTH LOUISIANA

BOSSIER PARISH — Bossier O&G Co., Inc.'s Sherrell 3, se se 13-19n-12w, 10-in csg 125 ft, dr 540 ft. W. A. Kirklin, Tr.'s Garrett & McKellar 1, se nw nw 3-21n-13w, dr 2390 ft. Producers O&G Co.'s E. C. Edwards 1, se sw 27-18n-11w, dk. Richplain Oil Co.'s Gaines 1, nw nw 22-22n-13w, cored 3½ ft sand so, cemtd 6-in csg 2835 ft, top cap rock, td 2842 ft. The Leonard Co.'s Pearson 1, 22-21n-14w, fsg 3300 ft. L. R. Skidmore's Davis 1, se se 12-18n-13w, sd repr rig 1810 ft. A. H. Richardson's Nattin 1, 15-22n-14w, lcn.

CADDO PARISH—Ed Bailey's Hartzo 1, ne nw 28-22n-15w, sd 1230 ft. Haynes Oil Co.'s Tyson 1, nw se 24-23n-16w, dk. F. D. Hyde et al's Thigpen-Herold 1, nw nw se 5-15n-15w, sd for water 420 ft. A. D. King, Tr.'s Roach 1, 4-14n-16w, swabbing 2½ in liner after using acid, td 2712 ft chalk. Texas Trading Co.'s J. B. Waskom 1, ne ne 30-19n-16w, tested sg 929 ft, sd for drill stem 1030 ft. United Gas Pub. Serv. Co.'s Young 1, 21-23n-16w, dr 5409 ft; Young 1, 21-23n-16w, core 5995 ft.

CALDWELL PARISH—Critchett & Wood's La. Cent. Lbr. Co. 1, se nw ne 18-11n-3e, set 6⅝ in csg 1704 ft, td 1716 ft. G. C. Davis et al's La. Cent. Lbr. Co. 1, sw sw 14-11n-3e, sr td 1850 ft. G. W. Ziegen et al's La. Cent. Lbr. Co. 1, nw sw sw 25-13n-3e, sd 556 ft.

CATAHOULA PARISH—McIntyre et al's Tensas Delta 1, sw nw ne 18-10n-2e, spd dr 200 ft.

CLAIBORNE PARISH—J. C. King et al's Odis Webb 1, nw ne 21-21n-8w, elev 265.6 ft, top Annona chalk 2375 ft, top Blossom 2630 ft, coring 2640 ft. E. T. Oakes et al's Patton Est. 1, ne ne 1-20n-5w, elev 357.3 ft, top Cane River 650 ft, wocs 12½ in csg 655 ft, hd black shale.

DE SOTO PARISH—E. B. Bird et al's A. D. Johns, Jr. 1, se nw 20-14n-16w, elev 290 ft, 6-in csg 2583 ft, sd 2645 ft. E. L. Foster et al's Youngblood 1, 9-11n-14w, 6-in csg 2735 ft, blew out est 4 to 6 mil ft gas, si, td 2860 ft. Flesh & Hootkins' Farmer 1, se se 14-12n-13w, re-bldg dk and rur, after abn hole started flowing 36.4 gravity oil by heads, td 3035 ft. Frailey et al's J. E. Stell 1, 5-12n-16w, resumed rur. C. T. Ruffin's Elmo P. Lee 1, nw sw 33-14n-13w, 6⅝ in csg 2785 ft, top Tokio 2811 ft, tested so pulling liner to set screen, td 2825 ft. Ed Saffold et al's T. D. Thigpen 1, nw sw ne 33-13n-13w, 6⅝ in csg 1620 ft, used acid, swabbing small amt oil, td 1732 ft chalk. The Hunter Co.'s DeSoto Corp. 1, nw nw 29-12n-14w, spd cemtd 10-in csg 210 ft.

EAST CARROLL PARISH—Century Oil & Drlg. Corp.'s Olivedell Pltg. Co. 1, 56-21n-12e, sdtr at 1520 ft, old td 2540 ft, black shale.

GRANT PARISH—Alexander et al's Maxwell 1, 9-9n-1e, rur.

JACKSON PARISH—American Liberty Oil Co.'s Lusk 1, cent ne ne 1-16n-1w, 12½ in csg 275 ft, dr 2690 ft.

MADISON PARISH — Southern Land & Expl. Co.'s Deltic Inv. Co. 1, nw nw 1-17n-12e, 12½ in csg 200 ft, dr 1400 ft.

MOREHOUSE PARISH—J. H. Gibson et al's Thomas 1, ne ne 16-22n-7e, dk and mir. Zeigen & Bacson's Crosett Lbr. Co. 2, se sw 36-23n-6e, sp and sd (formerly carried C. I. Bacon et al).

NATCHITOCHES PARISH—Clyde Creighton et al's Friedman Est. 1, swc 52-7n-6w, sd waiting on electrical tester, td 3560 ft. Edwards & Turner's Prudential Life Ins. Co. 1, nw nw 26-10n-6w, dk. Howard & Kittrell's De Blieux 1 (formerly B. E. Taylor et al), nwc 83-10n-7w, spd cemtd 12½ in csg 190 ft. Missouri Drlg. Co.'s Brown Lbr. Co. 1, 5-10n-10w, sd 1070 ft. Roy Raines et al's Raines 1, sw sw 28-9n-10w, sd for drill stem, td 3565 ft (formerly carried Mike Kissick et al).

OUACHITA PARISH — American Liberty Oil Co.'s Golson 1, cent nw nw 25-17n-1e, dr 2685 ft.

SABINE PARISH—M. T. Hines' J. B. Hill 1, sw ne 4-6n-11w, 6-in csg 2275 ft, dr 2718 ft.

UNION PARISH — Crescent Drlg. Co.'s Woolie 1, ne ne 34-19n-1e, 10-in csg 40 ft, coring 1440 ft. Southern Prod. Co.'s W. E. Clark 1, se nw nw 17-23n-1e, sd 2296 ft.

WEBSTER PARISH—Burnett et al's Fulbright 1, ne ne 1-18n-10w, dk.

WINN PARISH — P. E. Parsons et al's Tremont Lbr. Co. 1, nw sw 10-12n-2w, dk and mir.

SOUTH LOUISIANA

ACADIA PARISH—Continental Oil Co.'s Theogen Ortigo 1, 6 mi nw of Iota, sec 28-7s-2w, dr shale 7105 ft. Humble's Rice Milling Co. 1, s of Crowley field, sec 27-10s-2e, woc 5660 ft.

CALCASIEU PARISH — Fred Oil Co.'s Faist 2, 900 ft se of No. 1, sec 26-8s-10w, sd 3525 ft. Wheeler Oil Co.'s School Land 1, s of Iowa field, sec 16-9s-8w, sd 3720 ft.

CAMERON PARISH — Magnolia's Broussard 1, sec 13-12s-9w, dr shale 7504 ft.

EAST BATON ROUGE PARISH—Superior's Duplantier Community 1, s of Baton Rouge, sec 65-7s-1w, washing 7695 ft.

EAST FELICIANA PARISH—Thompson Creek Oil Co.'s Fanny Noland 1, e bank of Thompson Creek, sec 79-1s-1w, sd 1589 ft.

IBERIA PARISH—Texas Co.'s State Lake Fausse Point 1, s flank of dome, sec 35-11s-8e, cutting and pulling 5128 ft.

JEFFERSON DAVIS PARISH — H. M. Naylor's Boudreaux-Johnson 1, sec 39-10s-3w, dr gumbo 439 ft.

ST. BERNARD PARISH — Emerald Pet. Co.'s Shell Beach Properties 1, Bayou Louis, sec 31-13s-15e, dr water sand 6895 ft.

ST. MARTIN PARISH — Texas Co.'s St. Martin Land Co. 7, Henderson prospect, sec 9-8s-7e, dr shale 5148 ft.

MISSISSIPPI

BOLIVAR COUNTY—White & Jones' Ballou 1, ne ne 18-24n-7w, dr 1080 ft, rock.

GRENADA COUNTY—W. L. Stewart et al's W. W. Wood 1, se ne 19-22n-5e, spd.

MADISON COUNTY—Cleve Love et al's P. F. Simpson 1, nw nw 30-8n-1w, lcn.

MONROE COUNTY—P. J. McAlpine et al's Crook 1, nw ne ne 4-13s-18w, elev 413.6 ft, arr set packers to test sg, td 2531 ft.

RANKIN COUNTY—Cleve Love et al's Ascher 1, nw ne ne 18-5n-2e, sd for new boiler. td 1310 ft.

WASHINGTON COUNTY—Mid-Continent Development's Lee 1, sw sw 33-15n-8w, sd cur titles, 2100 ft.

WINSTON COUNTY—Jack Vale's Moody 1, sw nw sw 3-13n-14e, elev 540 ft, top Eutaw 1826 ft, arr make ds test, td 2250 ft in Eutaw green sand, after sg.

MICHIGAN

MIDLAND COUNTY—Brehm and Hollman's Gould 1, 15n-2w-19, dr 2300 ft.

ISABELLA COUNTY — McClanahan Oil Co.'s Currie 1, 16n-4w-34, co 1392 ft. United Drillers' Vandercook 1, 15n-3w-24, dr 3400 ft. Atha Oil Co.'s Fordyce 1, 16n-5w-34, dr 1600 ft.

OGEMAW COUNTY—Black Gold Pet. Co.'s Rockwell 1, 24n-4w-19, lcn.

GLADWIN COUNTY—Beaverton Oil and Gas Co.'s Ross 1, 17n-1w-7, Dundee 3859 ft, sw 3955 ft, sd. Sun Oil Co.'s Hines 1, 17n-1w-31, treated with acid 3998 ft, testing; Peterson 1, 17n-1w-19, dr 800 ft. Strange Oil and Gas Co.'s Spicer 1, 17n-2w-11, dr 3700 ft.

CLARE COUNTY—Farwell Oil and Gas Co.'s Siegel 1, 17n-5w-26, dr 2000 ft. T. K. Buzard's Newll 1, 17n-3w-19, lcn.

MECOSTA COUNTY—Jetter Oil Co.'s Parsley 1, 14n-10w-19, sd 3400 ft. Gordon Oil Co.'s Taylor 1, 13n-8w-25, dr 625 ft. Lawson and Flynn's Swanson 1, 13n-10w-11, dr 650 ft. Taggart Brothers' State 12, 15n-9w, sw ne-32, lcn.

OSCEOLA COUNTY — Smith Petroleum Co.'s Moser 1, 17n-10w-20, dr 3500 ft. Gordon Oil Co.'s Giese 1, 18n-10w-34, dr 200 ft. Sun Oil Co.'s McLaughlin 1, 17n-8w, nw nw-35, mim.

NEWAYGO COUNTY—C. W. Teater's Sawyer 1, 12n-12w-5, dr 1000 ft. West Ashlund's McKinley 1, 11n-13w-8, dr 1700 ft.

MONTCALM COUNTY — L. F. Duvall's Eiknorch 1, 11n-10w-13, co 1340 ft. Rex Oil and Gas Co.'s Olsen 1, 9n-7w-14, dr 1300 ft. Gordon Oil Co.'s Paulson 1, 12n-9w-24, dr 650 ft.

GRATIOT COUNTY—Kircher and Moffett's Shaver 1, 10n-4w-4, dr 3170 ft. Rex Oil and Gas Co.'s Biddle 1, 10n-4w-20, sd 3226 ft. Newark Oil and Gas Co.'s Beck 1, 10n-3w-29, Dun-

dee 3165 ft, sw 3185 ft, so 3187-8 ft, re-csg and to deepen. Bila Oil Co.'s Ryan 1, 10n-1w-32, dr 600 ft. Mid-State's Anderson 1, 11n-3w-20, dr 500 ft. Michigan Gas and Oil Co.'s Dean 1, 11n-3w-31, dr 200 ft. St. Louis Pipe and Supply Co.'s Loganbach 1, 12n-2w-10, sp.

CLINTON COUNTY—D. A. Burris' Becker 1, 8n-3w-35, sp.

ROSCOMMON COUNTY — Black Diamond Oil Co.'s Vaughan 1, 24n-2w-28, sd 3990 ft, may acidize. Durham and Jones' Eggleston 1, 21n-2e-9, dr 150 ft.

KENT COUNTY—Lowell Dev.'s Kallinger 1, 7n-9w-35, dr 2600 ft.

MONTANA

CARBON COUNTY — Bailey Round-Butte Oil Co.'s Test 1, ne se 3-6s-23e, dr at 986 ft.

FERGUS COUNTY—Emmons et al's Test 1, ne se 6-20n-18e, dr at 650 ft.

GALLATIN COUNTY—Montana Gas & Petroleum Co.'s Tyce 1, ne ne ne 28-1n-2e, dr at 2015 ft.

PETROLEUM COUNTY—Hardendorf & Keyes' Austad 1, sw nw nw 22-13n-28e, Rattlesnake Butte structure, dr at 218 ft.

STILLWATER COUNTY—Continental Oil Co.'s Orr 1, sw nw se 18-5s-17e, dr at 2950 ft.

TOOLE COUNTY—Fraser & Kluth's Severance 1, cse ne 29-32-2e, sd at 1520 ft.

WYOMING

ALBANY COUNTY—Ohio Oil Co.'s Two Rivers Land & Cattle Co. 1, sw ne 8-17n-74w, spd.

CONVERSE COUNTY—Chadron-Osage Oil Co.'s State 1, csw 16-32n-69w, dr at 600 ft.

CARBON COUNTY — General Petroleum Corp.'s Whitford 1, sw se ne 24-20-84w, sd 4400 ft, waiting on new equipment.

FREMONT COUNTY — Monongahela Oil Co. and Sidney H. Keoughan's Wisda 1, ne se 13-28n-93w, dr at 3560 ft.

WASHAKIE COUNTY—Wyoming Oil and Refining Co.'s Frison 1, nw sw nw 14-48n-91w, ur 8¼ in csg to bottom at 1695 ft.

WESTON COUNTY — Conway Oil Co.'s Government 1, se se nw 7-41n-60w, dr at 1960 ft.

NEW MEXICO

EDDY COUNTY—Geo. F. Getty Oil Co.'s Andrew Dooley 7, swc nw 24-20s-29e, elev 3309 ft, sdo in gray sand 6053 ft.

LEA COUNTY—Amerada's H. F. Andrews 1, c nw nw 12-20s-36e, Monument area, elev 3576 ft, top anhydrite 933 ft, dr 950 ft. Argo Royalty Co.'s B. A. Burner-The Texas Co. 2, c se se 8-20s-32e, elev 3584 ft, cem cas 1155 ft. Anderson-Prichard Oil Corp's Fisher 1, c se ne 8-20s-35e, elev 3690 ft, top anhydrite 1945 ft, top salt 2000 ft, sd in sulphur w 4325-75 ft. Amon G. Carter et al's G. H. Mattix-Conoco 1, c se nw 3-24s-37e, elev 3528 ft, top anhydrite 1090 ft, top salt 1225 ft, top brown lime 2547 ft, sulphur w in lime 3935-40 ft, sd to test. R. H. Henderson et al's P. J. Langley 1, c se se 8-25s-37e, elev 3162 ft, top salt 1205 ft, dr 3200 ft. Humble O & R Co.'s J. L. Coates 1-A, nw ne 10-24s-36e, elev 3385 ft, top anhydrite 1324 ft, top salt 1433 ft, dr 3455 ft; Coates 3, c nw nw 10-24s-36e, dk. Jeffers Oil Co. (R. H. Henderson's) C. M. Carlson 1, c nw se 27-25s-37e, elev 3025 ft, pul cas 460 ft; A. N. Etz-Conoco 1, c ne sw 12-21s-32e, elev 3813 ft, top anhydrite 1560 ft, base salt 3175 ft, top brown lime 3210 ft, dry and abd in sulphur w, td 3594 (slm) ft; Britt-Conoco 1, c se nw 7-20s-37e, Monument area, elev 3554 ft, sd for repairs 325 ft; Rapkoch-Conoco 1, c sw se 11-20s-33e, elev 3603 ft, top anhydrite 1395 ft, dry and abd in sulphur w, td 3557 (slm) ft. Harry Leonard (was E. B. Guess et al's) C. W. Justis 1, swc nw nw 20-25s-37e, elev 3067 ft, dr 1310 ft. Maljamar O & G Corp's L. R. Simon 1, c ne ne 29-17s-32e, Maljamar field, lcn; P. Miller 1, c nw se 23-17s-32e, elev 3992 ft, pb fr sulphur w at 4195 ft 4190 ft, swabs 30 bbls. oil daily. Ohio Oil Co.'s State-Maxwell 1, c ne nw 16-22s-36e, elev 3573 ft, sp. Shell Pet. Corp's State 1-E, c se se 35-19s-36e, Monument arear, elev 3594 ft, base salt 2300 ft, top brown lime 2505 ft, lime pay 3912-29 ft, used 2000 gals acid then 4000 gals acid, complete flowed 49 bbls. oil per hr and 1,500,000 ft gas daily. Skelly Oil Co.'s Coates 1, c sw se 3-24s-36e, Cooper area, elev 3392 ft, rig. Sun Oil Co.'s W. B. Maveety-Weir 1, c ne se 35-19s-36e, Monument area, elev 3601 ft, top anhydrite 1008 ft, top salt 1160 ft, dr 3080 ft. H. S. Record 1, c nw nw 22-22s-36e, Eunice area, rig. Superior Oil Co. (Cal's) State 1, c ne ne 2-20s-36e, Monument area, elev 3596 ft, top anhydrite 980 ft, dr 3600 ft. Texas Co.'s Saunders 1, c se sw 18-19s-37e, Monument area, elev 3693 ft, top anhydrite 1288 ft, top brown lime 2585 ft, blew out at 3900 ft, est. 55,000,000 ft dry gas, killed to deepen. W. L. Todd and Texas Co.'s Fred Cole 1, c ne ne 35-19s-33e, elev 3603 ft, top salt 1540 ft, top white lime 3250 ft, sulphur w at 3513-18 ft, dr 3955 ft. TP Coal & Oil Co.'s State 1, 1 se 2, c se sw 9-22s-36e, s Eunice field, elev 3567 ft, cem sur cas.

CHAVES COUNTY—John Tannehill's Campbell 1, ne se ne 1-11s-25e, ur 10 in csg to bottom at 370 ft for water shut off. Comanche Drilling Co.'s Sloop-Purcell 2, cne ne 15-11s-26e, lcn.

EDDY COUNTY—Dooley et al's, Commerce Trust 1, nw ne sw 8-20s-27e, sr at 650 ft to bottom 700 ft.

OTERO COUNTY—Flynn, Welch & Yates' Donohue 1, cnw ne 28-24s-15e, Sacramento Creek structure, dr 1640 ft.

SANDOVAL COUNTY—Continental's L-Bar Cattle Co. 1, se 2-13n-4w dr at 250 ft.

OKLAHOMA

ALFALFA COUNTY—Acre et al's Acre 1, csw ne 14-24s-11w, sd 6460 ft.

ATOKA COUNTY—W. L. Kistler's Brown 1, sw sw sw 19-1s-12e, mim. Sears' Down ng 1, se se nw 17-1s-14e, sd. Sears' Davis 1, se se se 18-1s-14e, lcn. R. W. Vierson et al's Williams 1, ne sw nw 34-2s-10e, br. Keaton's Rowland 1-A, nw ne ne 18-3s-10e, sd 850 ft. Brookshire et al's Rowland 1, nw ne ne 18-3s-10e, top wx 3590 ft, 5-in csg 3685 ft, td 3844 ft, hfw, 5-in csg pulled, pb 757 ft, treated 1500 gals.acid, hole bridged at 643 ft, sd casing was full of water and hole was full of oil on cutside of casing. R. H. Pierce et al's Aetna Life Ins. 1, nw sw ne 10-1n-13e, 15½ in csg 125 ft, dr 197 ft. Wilkerson's Galbreath, nw se se 5-1n-15e, mach sd 295 ft.

BECKHAM COUNTY—Martin's Robinson, c ne se 1-9n-22w, spd with machine, now mirt. United Carbon Industries' Eason 1, cnw nw 11-9n-25w, Blaine Gyp. 471 ft, 8-in csg 3150 ft, td 3250 ft, wocs. E. M. Cluck's M. C. Riley 1, nw nw nw 36-9n-25w, mit for 2800 ft test.

BLAINE COUNTY—Earl Ingraham et al's Masters 1, sw nw nw 27-16n-11w, sd 1330 ft.

BRYAN COUNTY—J. D. Parks' Coats 1-A, se ne sw 1-5s-8e, fsg. Smith's Henry, cnw ne 10-8s-7e, rog and pouring rig corners. Trio Oil Co.'s Gilbert 1, sw ne sw 25-8s-7e, td 806 ft, ur 8-in csg 785 ft. C. B. Welch's M. Collins 1, sw sw nw 19-8s-8e, sd 570 ft, repairing machine.

CADDO COUNTY—Turner et al's Sapin, ne ne sw 1-5n-?11w, 10-in csg 40 ft, dr plug. H. W. Lee et al's Stacey Ferrell 1, sw ne ne 3-6n-13w, rust, td 2292 ft. H. W. Lee et al's Horton 1, ne ne ne 9-6n-13w, ru & sd. Denver

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P.&R.'s Sah-Cam 1, cse se 33-10n-10w, dr 7338 ft, will set 9⅝-in csg at approx. 7500 ft.

CANADIAN COUNTY—R. Carl Larkin's Brovene 1, nw nw ne 33-13n-5w, td 7748 ft, D & A.

CARTER COUNTY—Carter Oil Co.'s Humble-Williams 1, sw ne sw 27-2s-3w, dr 6410 ft, in Viola. Waco Turner's A. F. Munson 1, ne nw ne 35-5s-2w, core 4154-72 ft, recov 5 ft Ls. & Sd, salty taste; core 4275-90 ft, dry sd with sh streaks, dr 4360 ft.

CHOCTAW COUNTY—E. B. Abernathy's Christian 1, sw se se 1-6s-19e, sd 186 ft. Burns et al's Hallum 1, ne nw nw 4-7s-20e, spd & sd.

CLEVELAND COUNTY—Asa Lee Mayes, Inc.'s Faut 1, sw sw ne 27-10n-2w, cellar & pits.

COAL COUNTY—Amerada & Stanolind et al's Travelers Life Ins. 1, sw nw se 28-1s-9e, top Wap. 2520 ft, dr 2570 ft. Hudspeth et al's Schmelzer 1, ne sw ne 35-1n-8e, sd 1170 ft. Carter Oil Co. et al's John Thompson 1, csl ne nw 34-2n-9e, dr 3220 ft.

COMANCHE COUNTY — R. E. Carson's Barber 1, ne ne se 9-1n-11w, sd 500 ft. F. F. Stevens' Green 1, se se sw 11-1n-13w, sd 1735 ft.

GARVIN COUNTY—Chas. E. Carter et al's Wood 1, nw sw se 5-4n-3e, sd 2405 ft.

GRANT COUNTY — Helmerich-Payne's Crouse 1, cne sw 29-25n-8w, Miss. Ls. green shale break 6347-51 ft, Woodford 6354 ft, dr 6371 ft. L. H. Wentz et al's Wirtz 1, se se nw 22-28n-4w, lcn. Westgate's Clark 1, nw ne nw 17-29n-4w, rig.

GREER COUNTY—Fred Morgan et al's H. G. Carder 1, csw se 19-4n-22w, td 3230 ft, fsg dr pipe. M. C. Ent & Rc. Camp's Siminton 1, sw sw se 29-5n-21w, sd 50 ft. Gled Oil Co.'s Simpson 1, ne ne ne 11-5n-22w, mim. Rockwell et al's Stephens 1, csl se 32-6n-24w, mach. H. N. Payne et al's Tressell 1, nw nw nw 1-7n-22w, co 1440 ft.

HARMON COUNTY—Massad & Caudle's Crosnoe 1, se se sw 14-3n-25w, rig. D. E. Whatley et al's Hamilton 1, nw nw se 25-4n-24w, cellar & pits. Mathis' Keith 1, se nw sw 12-5n-26w, machine on ground.

HUGHES COUNTY—Dandridge & Crane's Mead 1, nw nw ne 17-5n-9e, sd 1710 ft. Freeman et al's Kite 1-A, nw nw ne 8-6n-10e, sd 685 ft. Caprock Oil Co.'s Parks 1, sw sw se 34-7n-8e, rig. Texas Co.'s Keeton 1, nwc sw 4-8n-10e, 6⅝-in csg washed but flowed water, co.

JACKSON COUNTY—Marshall & Burnham's Y. B. Hess 1, nw se ne 27-1s-20w, sso & g 358-65 ft. Associated Oil Co.'s Harrell 1-A, ne ne se 13-1s-21w, sd 875 ft. Dengail Oil Co. et al's Robinson 1, se se ne 32-1s-22w, rur. Gypsy Oil Co.'s Boucher 1, nw sw sw 32-1n-19w, dr 2288 ft. Whatley & Whatley's R. Holt 1, nw sw se 20-1n-20w, sd 1430 ft. Selby Oil & Gas Co.'s Cobb 1, ne nw ne 22-1n-20w (otd 1140 ft), dr 1165 ft. Petroleum Products Co.'s C. W. Cole 2, se sw se 34-2n-20w, Granite wash 1428-62 ft td, pump 40 bbls, may recondition. Palo Duro Oil Co.'s Ealum 1, sw sw se 16-2n-21w, dr 1540 ft. J. G. Buell et al's M. E. Kizziar 1, se se ne 2-2n-22w, dr 2370 ft. Triangle Prod. & Ref. Co.'s Fox 1, cnl se sw nw 11-3n-20w, sd 60 ft. E. L. Robberson & G. B. Suppes' P. W. Walker 1, sw sw sw 19-4n-20w, td 1600 ft, D & A.

JEFFERSON COUNTY—Ben Levy et al's Ryan 1, nwc 16-6s-6w, td 2261 ft, D & A. Gypsy Oil Co.'s J. James 1, sw se se 30-6s-6w, sd 2102 ft.

KAY COUNTY—Marshall-Haddock et al's Hermes 1, sw sw nw 6-26n-4e, dr 385 ft in new hole. J. T. Lindsay's Waggoner 1, nw nw ne 3-27n-1e, dr 2393 ft. Lewis Prod. Co.'s Summers 1, sw se nw 17-27n-2e, dr 2900 ft.

KIOWA COUNTY—Rajah Oil et al's Stone 1, cse ne 34-7n-17w, sd 1040 ft, may reacidize.

LE FLORE COUNTY—McGraw et al's Tidwell 1, cnw se 17-3n-22e, spd & sd. Eastern Oklahoma Oil Co.'s Metcalf 1, sw sw sw 2-4n-26e, sd 2040 ft, cavey hole.

LINCOLN COUNTY—Amerada & Stanolind's Connelly 1, se ne se 23-14n-2e, rig. Texas Co.'s Niccum 1, se sw nw 28-14n-5e, Mayes Ls. 4290 ft; lost circulation 4405-25 ft, dr 4484 ft. C. L. Carlock's Young 1, cn½ nw nw 23-15n-5e, sd 51 ft. Stanolind's Cavanaugh 1, se se ne 31-15n-5e, dr 3660 ft, will go to sand.

LOGAN COUNTY—Stanolind & Amerada's Comm. Nunn 1, se se nw 25-15n-1e, wx sand 5386-5447 ft, 2nd wx sand 5461 ft, cored 5465-5477 td, wh salty sand sdo. Continental's J. J. Hildreth 1, se se sw 22-15n-5w, 1st wx sand 6217 ft, cored 6220-41 ft, td. Recov 2 ft limey stained sand, 1 ft soft well stained sand & 13 ft 8-in fine well stained sand, slightly asphaltic. To run casing. Sinclair & Slick-Urschel's Koatsch 1, sw sw sw 23-15n-3w, pb with 10 sacks, wocs. Freeland et al's Scutchfield 1, nw nw ne 9-16n-1e, rog. Sinclair Prairie et al's Foree 1, ne ne ne 1-16n-1w, rur. Houghton Royalty's Langston Townsite 1, sw sw se 13-17n-1w, cellar & rig corners.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, lcn.

MAJOR COUNTY—I.T.I.O. & Continental's Fairview 1 c sw se 32-22n-14w, dr 4526 ft.

MARSHALL COUNTY—Schermerhorn Oil's Rich 1, sw se se 35-4s-4e, Bromide sand 2718 ft, oil stain 350-404 ft, coring 626 ft in Ls. with streaks of green sl sso. Paul R. Robb's Vittetoe 1, cne se 11-5s-4e, sd 5461 ft. Headington's Shell "B" 1, se se ne 36-7s-5e, lcn. Smith's Chestnut 1, ne ne ne 23-8s-5e, ru machine for 800 ft test.

MURRAY COUNTY—Equitable Oil & Gas Co.'s Ferguson 1, ne ne sw 36-1s-3e, dr 1411 ft. Bland et al's Center 1, ne ne ne 6-4s-2e, ru and sd. Revels' Harris 1, ne ne ne 18-1n-2e, 5-in csg 2630 ft, sand 2658-70 ft, 200 ft sulphur water 2844-46 ft, sd 2846 ft. Hernsby & Jones' Sadler 1, ne ne nw 20-1n-2e, mirt.

NOBLE COUNTY—Harry Chapple's Ragan 1, nw se nw 29-21n-1w, td 1053 ft, ur 10-in csg.

OKFUSKEE COUNTY—Sunray's Culla 1, ne sw ne 13-12n-8e, mit.

OKLAHOMA COUNTY—Sinclair Prairie's Corbett 1, ne nw ne 17-13n-3w, cored 6650-58 ft, recov 3½-in csg, tight wh sand, so & balance core sandy dol, no shows. Slick Urschel et al's Owen Community 1, se c 19-13n-3w, flow 465 bbls oil, 37 million ft gas in 24 hrs, completed. Burns Oil's Owens 1, sw ne se 29-13n-3w, cellar. Slick-Urschel's Meeker 1, nw nw nw 29-13n-3w, lcn. Slick-Urschel et al's Zielny 1, ne ne sw 29-13n-3w, rurt. Gypsy Oil & I.T.I.O.'s Salisbury 1, nw ne ne 13-14n-4w, dr 4466 ft, Pawhuska Ls. 3230 ft.

OSAGE COUNTY—Danciger Refining Co.'s Osage 1, ne ne se 1-25n-6e, ru machinery.

PAWNEE COUNTY—Stanolind et al's Shunatana 1, ne sw se 32-22n-3e, rur.

PAYNE COUNTY — Amerada Petroleum Corp.'s Freidemann 1, se se se 28-19n-3e, 12½-in csg 149 ft, dr 520 ft.

PITTSBURG COUNTY—Gray's Lee 1, nw nw se 12-5n-13e, mach, 10-in csg 64 ft, sso 500 ft, fsg 1210 ft.

PONTOTOC COUNTY—Gillette & Kroeger's Duver 1, nw nw se 36-1n-6e, sd 1320 ft. Continental's McCarthy 1, csw nw 12-1n-7e, mirt. Leonard Williams et al's Breedon 1, nw nw nw 6-2n-5e, mach, spd and sd. Mudge Oil Co.'s Clampett 1, sw nw nw 10-2n-6e, sd 885-901 ft, td, hfw, D & A. Southern Oil's Walker 1, nw nw sw 11-4n-6e, shot 11 qts 1162-72 ft, sd. Pegg's Whitley 1, sw se nw 8-4n-8e, sd 2616 ft. Phillip Boyle's McCracken 1, ne nw nw 31-5n-4e, ru to pump. Cooper's Chandler 1, ne se sw 4-5n-6e, sd 1780 ft.

PUSHMATAHA COUNTY—Wm. Ungerman et al's Messer 1, se sw sw 35-3s-18e, ur 6-in csg to 3155 ft and sd.

SEMINOLE COUNTY — Slick-Urschel's Baskin 1, ne c sw 9-5n-6e, rust & sd. Jobe's Baker 1, se sw nw 8-6n-7e, 8-in csg 970 ft, hfw 1315 ft, sand 1481-88 ft, dr 2323 ft. Carter & Shell's Brown C-41 1, cw½ se sw 23-8n-5e, dr 2250 ft. Tom Phillips' Abbott 1, ne ne ne 33-7n-8e, wx 4339-51 ft, dry, will pb test Booch sand. Van Deventer et al's Bender 1-A, ne ne sw 3-8n-8e, dr 2210 ft. Dorris' Deaton 1, se se sw 31-10n-7e, 10-in csg 608 ft, sd 900 ft.

STEPHENS COUNTY—Morgan Petroleum's Calloway 1, se se ne 17-1n-8w, wocs td 2190 ft. Geo. Pace et al's Daily 1, ne ne ne 26-1n-8w, td 3552 ft, D & A. Wm. Angle et al's Cooper 1, ne nw nw 23-2n-7w, dr 4160 ft.

TILLMAN COUNTY—Rock Island Ref. Co.'s Lynch 1, cse sw 35-1s-16w, sd 995 ft.

WASHITA COUNTY—Okla. Mid-Western Oil's Dock 1, sw sw sw 21-8n-18w, sd 2550-72 ft, hfw & so, will test. McWhirter et al's Fee 1, nw sw sw 34-8n-19w, sd 595 ft.

EAST TEXAS

ANDERSON COUNTY—Gulf Prod. Co.'s Southern Pine Lumber Co. 2-A (115.9-ac), J. C. Rosson sur, Camp Hill area, cem surface cas; Southern Pine 3-A (115.9-ac), sp. J. W. Luttes et al's C. M. McKee 1 (100-ac), W. F. Pool sur, 3 mi se of Frankston, elev 391 ft, Pecan chalk 3830-4390 ft, sd 4516 ft. Tide Water Oil Co-Texas Seaboard Oil Co's N. N. Wills 21-A, Cayuga field Trinity sand test, elev 308 ft, 8700 ft; Shaw & Cern 1 (1216-ac), Daniel Parker sur, Long Lake area, elev 300 ft, Pecan chalk 3580-3618 ft, dr 4755 ft; C. T. Valentine 1 (301-ac), John Little sur, 9 mi n of Palestine, elev 454 ft, Pecan chalk 3621-3920 ft, Austin chalk 4725-4981 ft, top Woodbine series 5160 ft, pb fr sw at 5282 ft to 3000 ft to sdtr.

BOWIE COUNTY—Tex-Ark Oil Co.'s J. B. Hamilton 1 (40-ac), Jessie Milam sur, elev 272 ft, sd 1121 ft.

CASS COUNTY—Stanley A. Thompson et al's G. H. Allen 1 (150-ac), Wm. King sur, 3 mi s of Hughes Springs, lcn.

CAMP COUNTY—E. J. Moran, G. E. & Ray Hubbard's W. M. Mitcham 1 (100-ac), L. Rose sur, 1½ mi n of Newsome, lcn.

CHEROKEE COUNTY—H. A. Baker & Florence Oil Co.'s Tol Smith 1 (40-ac), Jose Pineda sur, 4 mi nw of Jacksonville, elev 547 ft, top Pecan chalk 3520 ft, dr 3950 ft. Jacksonville O & G Corp's H. D. Henderson 1 (40-ac), J. Pineda sur, elev 409 ft, sd 693 ft. Clarke-Cowden Drl Corp.-R. J. St. Germain & L. J. O'Connor's J. G. Long 1 (54.65-ac), Don T. Quevado League, blk 13, 1 mi s of Mount Selman, elev 668 ft, sp and sd. Roberts Bros. et al's H. E. Pryor 1 (3-ac), Jessie T. Jones sur, Rusk pool, lcn. Shell Pet. Corp's New Birmingham 1 (1040.38-ac), Levi Jordan sur, Rusk pool, elev 487 ft, dr 2000 ft. T. J. Wood & Young's New Birmingham 4 (160-ac), Levi Jordan sur, Rusk pool, elev 476 ft, Pecan chalk 4028-4436 ft, Austin chalk 4940-5173 ft, top Woodbine section 5173 to 5182 ft, sd to pump; New Birmingham 5, rig.

FRANKLIN COUNTY—J. E. Farrel & Co.'s G. K. Ayres 1 (50-ac), Chas. H. Simms sur, top Pecan chalk 2425 ft, coring Woodbine sand 4310 ft.

GREGG COUNTY—L. P. Kean et al's S. M. Smith 1, W. W. Avery sur, 4 mi s of Gladewater, rig.

HARRISON COUNTY — Adams & Bird's Washburn Lbr. Co. 1, F. Jordan sur, dk. Itex Oil Co.'s T. J. Taylor 1, W. H. Payne sur, dr 3950 ft. Roy C. Swails et al's Bonnie Pitts 1, SEc G. W. Martin sur, sd 1810 ft. Hanover, Bergendall et al's Buchanan 1, W. M. McIlvain sur, installing new rig, td 3682 ft. Hammonds & Williams' W. T. Cock 1, J. N. Sorrell sur, arr test td 2500 ft.

HENDERSON COUNTY—Edson Pet. Co.'s C. L. Loper 1 (3-ac), Isaac Clendennan sur, Cayuga area, lcn. Illinois Oil Co.'s C. R. Litchfield 1 (4½-ac), I. Clendennan sur, Cayuga area, lcn. C. D. Neff et al's H. G. Small 1 (100-ac), Isaac Greeson sur, sw of Cross Roads, elev 284 ft, Pecan chalk 2176-2225 ft, top Austin chalk 3150 ft, dr 3890 ft. O. M. Rector et al's C. L. Loper 1 (3½-ac), I. Clendennan sur, Cayuga area, lcn. Taubert & McKee's M. T. Dodd 2 (160-ac), Geo. Aldrich sur, 4 mi e of Malakoff, lcn. Fred Upchurch et al's C. L. Loper 1 (3½-ac), I. Clendennan sur, Cayuga area, elev 331 ft, Pecan chalk 2235-2454 ft, top Austin chalk 3279 ft, showed gas and trace distillate on dst at 4034-96 ft, sd for cas. H. M. Wilson et al's fee 1 (943-ac), Thomas Caro sur, 5 mi n Malakoff, dk. Stroube & Stroube (was) Toddie L. Wynne et al's C. L. Loper 1 (11.31-ac), I. Clendennan sur, Cayuga area, dr 2530 ft.

HOPKINS COUNTY—D. A. Hale et al's L. N. Hall 1 (70-ac), A. Caro sur A-143, elev 506 ft, Pecan chalk 1825-2040 ft, top Austin chalk 2728 ft, sd 2950 ft.

HUNT COUNTY—J. F. Morrissey Co., Inc's P. B. Fry 1 (146-ac), Calloway Davis sur, 7 mi se of Ladonia, elev 561 ft, base Austin chalk 1780 ft, jkd and abd 2007 ft, skid rig 30 ft e and dr 2180 ft. H. G. Samson, Shawver et al's J. R. Phillips 1, W. L. James sur, elev 522 ft, Pecan chalk 556-631 ft, top Gober chalk 1202 ft, top Woodbine 2596 ft, top Red Beds 2750 ft, co 2913 ft.

KAUFMAN COUNTY—G. H. Germany et al's D. Clark-W. S. Kirby 1, S. Edens sur, sd 1780 ft. L. P. Kean et al's J. B. Hunter 1, R. Sowell sur, 4 mi s of Terrell, elev 453 ft, top Austin chalk 1785 ft, td 3400 ft, dry and abd. Murray & Emerson's G. W. Martin 1 (100-ac), W. F. C. Butler sur, dr shale 1730 ft.

LEON COUNTY—Killough & Tucker's J. W. Lee 1 (10-ac), Jacob Burleson sur, Buffalo area, elev 303 ft, top Pecan chalk 3870-4028 ft, top Austin (soft) 4908 ft (hard) 4925 to 5230 ft, tested salt water in Woodbine 5634-40½ ft, dry and abd.

LIMESTONE COUNTY—Dan H. Daugherty et al's Sallie Welch 1 (94-ac), Pedro Varella sur, Austin chalk 2350-2650 ft, top Woodbine 2890 ft, dr 3020 ft. J. W. Kemp Co., Inc's Vol DeLong 1 (40-ac), Pedro Varella sur, 2½ mi n of Thelma, top Woodbine series 2750 ft, sandy-shale 2763-2876 ft, made little gas, dry and abd. J. Edward Mills et al's J. B. Hunt 1 (34¼-ac), Israel Woods sur, 3 mi ne Kosse, Pecan chalk 2010-2137 ft, Austin chalk 2780-3158 ft, top Woodbine sand 3578 ft, sd 3654 ft. Yandell Rogers, W. A. "Bill" Reiter & W. H. Foster's J. M. Tidwell 1 (230-ac), 2½ mi sw of Mexia field, sp and sd.

MORRIS COUNTY—Steve J. Rotondi et al's W. & C. Smith 1 (50-ac), M. C. Vela sur, 2½ mi sw Naples, sp and sd. C. M. "Dad" Joiner et al's fee 1, Wm. Coffey sur, lcn. B. L. Watson et al's E. Hall 1 (177-ac), Levi Jordan sur, 5 mi ne of Daingerfield, sd 4159 ft.

NAVARRO COUNTY—L. N. McCulloch et al's Berry Bros. 1 (35-ac), W. W. Moss sur, Austin chalk 751-1060 ft, sd 1182 ft. E. M. Thomason & Co., Inc's Celia Moran 1 (100-ac), Wm. Haggard sur, top broken Austin chalk 1258 ft, top hard chalk 1288 ft, dr 1410 ft. Wiggins & Albritton's D. A. Donoho 1 (63½-ac), John Caudle & Highnote sur, 2 mi sw of Corsicana, elev 467 ft, sd 1439 ft.

PANOLA COUNTY—J. L. Cadrin's Robt. Johnson 1, J. Johnson sur, dk. Flinchbaugh & McAneny's H. G. McCormick 1, Jas. P. McAdams sur, 10-in csg 150 ft. G. F. Hudson's J. F. Nail 1, C. McCrary sur, elev 283 ft, 4½ in casg 2300 ft, tested dry with so td 2337 ft. Geo. LeGrand's P. J. Laidleigh 1, A. Thompson sur, sd 885 ft. S. B. Wallace 1, A. M. McLaughlin sur, rog.

RAINS COUNTY—Harry B. Baker-Allen &

McClung's Ida Bullard 1 (75-ac), Nancy Brantley sur, 2 mi sw Emory, dk; Mrs. Olma Giles 1 (77-ac), Thos. Cunningham sur, 6½ mi sw of Emory, dk.

ROBERTSON COUNTY—H. L. Patton Co.'s W. H. & H. A. Ely 1 (616-ac), Antonio Manchaco sur, 5 mi se Hearne, elev 392 ft, top Carrizo 661 ft, dr 3415 ft. J. C. Kilgore, Tr., et al's Ely 1 (616¾-ac), A. Manchacha sur, mim.

RUSK COUNTY—Ben E. Lamb et al's Haywood Leath 1 (185-ac), L. J. Dooley sur, 2½ mi ne Pirtle elev 370 ft, Pecan chalk 2418-2793 ft, Austin chalk 3352-3512 ft, td 4750 ft, pb to 4710 ft and sd. Stewart & Egan's Hall Wood 1 (847-ac), blk 12, Jose I. Sanchez sur, elev 310 ft, Pecan chalk 3030-3740 ft, top Austin chalk 4215 ft, pulled in dk, td 4404 ft.

SAN AUGUSTINE COUNTY—The Hunter Co.'s Long-Bell Lbr. Co. 2, P. Galloway sur, spd dr 2044 ft.

SHELBY COUNTY—I. M. Bradley et al's J. J. Ashberry 2, J. M. Mitchell sur, 6⅝ in csg 2960 ft, sd 3398 ft. C. E. Litchfield et al's W. C. Windham 1, A. H. English sur, sd 3595 ft. J. W. Reynold's et al's Polley Est. 1, E. F. Christenberry sur, mim. Tarbud Oil Co.'s Pickering Lbr. Co. 1, W. D. Woodfin sur, spd dr 1550 ft. Pickering Lbr. Co. 2, Jas. Forsyth sur, spd dr 1885 ft.

SMITH COUNTY—J. C. Bowers et al's Malcom Landers 1 (215-ac), S. A. & M. C. Ry. sur, A-968, 3 mi ne of Jamestown, elev 386 ft, Navarro lime 2000-2185 ft, dr 3000 ft. R. W. Fair et al's Fred Terrell 1 (72-ac), Eli Delk sur, 2½ mi ne Sand Flats, elev 419 ft, Pecan chalk 3250-3660 ft, Austin chalk 4588-4700 ft, top Woodbine 5040 ft, dr 5225 ft.

TITUS COUNTY—Steve J. Rotondi et al's O. C. Lillianstern 1 (40-ac), W. H. Crawford sur, 5 mi se Talco, elev 301 ft, dk.

UPSHUR COUNTY — Flanagan & Vardeman's W. D. Barber 1 (78-ac), Del Toris sur, 5 mi nw of Glenwood, lcn.

VAN ZANDT COUNTY—Newt Tidwell & W. J. Rogers et al's L. E. Breucher 1-A (98¾-ac), David Clapp sur, 5 mi se Wills Point, dr 4280 ft.

WOOD COUNTY—Atlatl Royalty Corp (E. DeGolyer's) J. B. Goldsmith 1 (693.3-ac), W. W. Lanier sur, A-358, 3 mi nw of Quitman, elev 453 ft, Pecan chalk 2450-2636 ft, Austin chalk (broken) 3807 ft (hard) 3835 to 3973 ft, top Woodbine 4447 ft, top Red Beds 4680 ft, sd 5040 ft.

WEST TEXAS

ANDREWS COUNTY — Fuhrman Pet. Corp.'s W. T. Ford 2, se¼ sec 16, blk A-43, PSL sur, elev 3187 ft, top anhydrite 1703 ft, top salt 1747 ft, sg, dr 4050 ft. Crafton Oil Co. (Amon G. Carter's) J. W. Richards-McWhorter 1 (160-ac), c ne¼ sec 13, blk A-30, PSL sur, elev 3441 ft, mim. Honolulu Oil Corp-Llano Oil Co.'s J. E. Parker 1-B, nec w½ ne¼ sec 11, blk A-43, PSL sur, elev 3218 ft, top salt 1978 ft, top Yates sand 3125 ft, top brown lime 4200 ft, top gray lime 4294 ft, est 40 bbls oil in lime 4627-4792 ft, sulphur water 4792-4804 ft, sd to pb and shoot. Gulf Prod. Co.'s J. S. Kelly 1-A, cse¼ sec 2, blk A-38, PSL sur, elev 3422 ft, dr 150 ft. Humble's J. S. Means 4, c se ne sec 12, blk A-35, PSL sur, elev 3157 ft, lcn; R. M. Means 4, c se sw sec 4, blk C-45, PSL sur, elev 3185 ft, flows 49 bbls oil per hr, testing 4520 ft; R. M. Means 5, c sw sw sec 4, blk C-45, PSL sur, lcn. Republic Prod. Co.'s W. H. Boner 1, se¼ sec 25, blk A-43, PSL sur, elev 3199 ft, top anhydrite 1719 ft, fsh 4003 ft. Shell Pet. Corp.'s J. S. Means 1, c se sw sec 2, blk A-35, PSL sur, lcn. Lou Stogner et al's C. C. George-TP 1, c se¼ se¼ sec 25, blk A-22, PSL sur, sp and sd. J. W. Tripplehorn & Bros.' C. E. Ogden-Humble 1, sec sw¼ sec 6, blk A-46, PSL sur, elev 3211 ft, dr 2815 ft. E. M. Wahlenmaier-York & Harper's O. G. Bitler-J. F. Getty 1, cne¼ sec 10, blk A-32, PSL sur, elev 3307 ft, top anhydrite 1880 ft, top salt 1975 ft, dr 4610 ft. Wahlenmaier Pet. Corp.'s R. A. Cox-Humble 1, c nw¼ sec 8, blk A-33, PSL sur, dr 175 ft.

BORDEN COUNTY—C. Ed. Hyde et al's G. M. Dodge 1, nw c se nw sec 28, blk 33, T&P Ry sur T-4-N, lcn.

BREWSTER COUNTY—Floyd C. Dodson et al's Texas American Synd 1, c ne ne sec 66, blk 10, H&GN Ry sur, deep test, sd for rotary 963 ft. C. M. "Dad" Joiner et al's W. J. McIntyre 1, se¼ sec 31, blk 352, W. J. Mitchell sur, hole filled with mud, td 2150 ft. K. H. King and C. R. Franklin's A. S. Gage 1, nw¼ sec 138, blk B-22, GH&SA sur, sd 1180 ft. S. G. Smith et al's Mrs. Decie 1, nwc se se¼ sec 7, blk 1, G. T. Ry sur, dr 1110 ft. G. H. Storey et al's Jim P. Wilson 1, c se nw sec 3, blk 212, T&St. L. Ry sur, dr 1655 ft.

COKE COUNTY—C. D. Hagerty et al's S. W. Gaston 1, Jos. Young sur No. 11, elev 2022 ft, sd 3120 ft.

CRANE COUNTY—American Liberty Oil Co. et al's J. B. Tubb-Humble 1, swc sec 11, blk B-27, PSL sur, elev 2536 ft, top Yates sand 1470 ft, top lime 2400 ft, making little o and g, dr lime 3703 ft. Dobbs Oil Co.'s Jax Cowden 1 (1120-ac), sec n½ sec 38, blk 1, H&TC sur, elev 2330 ft, ur 500 ft. B. H. Fleet et al's R. S. Pershing-The Texas Co. 1, sec 1, blk 31, H&TC sur, lcn. Gulf Prod. Co.'s M. F. Henderson 1, c se¼ sec 3, blk B-23, PSL sur, elev 2778 ft, top anhydrite 1100 ft, top Delaware lime 2219 ft, flows 15 bbls 27.6 gravity oil, dr lime 3476 ft; M. B. McKnight 1, c sw sw sec 9, blk B-21, PSL sur, elev 2679 ft, top salt 615 ft, top lime 2530 ft, show black oil 2895-2902 ft, pumped 117½ bbls fluid 24 hrs, td 3713 ft, will shoot; W. N. Waddell et al 1, c nw nw sec 4, blk B-27, PSL sur, Ordovician test, elev 2554 ft, top salt 510 ft, dr 4665 ft. W. L. Holloway et al's J. B. Mayberry-The Texas Co. 1, near c sec 17, blk 35, H&TC Ry sur, sd 570 ft. Magnolia's W. P. Edwards 1, sec w½ se¼ sec 2, blk B-23, PSL sur, elev 2778 ft, top salt 1292 ft, top anhydrite 1188 ft, oil pay 3214-39 ft, dr with 2500 ft oih 3300 ft.

CROCKETT COUNTY—E. C. Leslie & Hiller's J. S. Todd 1, sec ne ne sec 26, blk "WX," GC&SF sur, fsh 715 ft. Chas. and Grant Adkins et al's Shannon-Atlantic 1, swc n½ sw¼ sec 27, blk "WX," GC&SF sur, lcn.

CULBERSON COUNTY—Anderson-Prichard Prod. Corp.'s H. A. Borders 1, nw¼ sec 34, blk 249, GB&CNG Ry sur, elev 4565 ft, crooked hole 1667 ft. Miller et al's Fee 1, sec 21, blk 97, PSL sur, sd 2137 ft.

JEFF DAVIS COUNTY — C. M. "Dad" Joiner et al's Jones-Coffield 1, ne¼ sec 8, blk 3, H&TC sur, dr 1370 ft.

DAWSON COUNTY—O. F. Dickenson, Tr., et al's C. H. Doak 1, e part sec 43, blk C-41, PSL sur, sd 265 ft.

ECTOR COUNTY—Empire Gas & Fuel Co.'s H. E. Cummins 1, sec se¼ sec 10, blk 44, T&P Ry sur T-1-N, elev 3234 ft, top anhydrite 1397 ft, top salt 1420 ft, top Yates sand 2660 ft, top lime 3668 ft, making gas, dr by tools 4130 ft. Continental Oil Co.'s L. E. Wight 1, nec sw¼ sec 21, blk 43, T&P Ry sur T-1-S, dr 40 ft. A. R. Eppenauer et al's A. W. Wight-Conoco 1, nwc ne¼ sec 22, blk 43, T&P Ry sur T-1-S, dr 460 ft. Landreth Prod. Corp. et al's Cowden Hrs. 1, swc sw¼ sec 18, block 44, T&P Ry sur T-1-N, elev 3192 ft, top anhydrite 1425 ft, top salt 1445 ft, top Yates sand 2648 ft, top brown lime 3705 ft, dry and abd in sulphur water 4435-70 ft; Clarence Scharbauer 1-A, sec nw ¼ sec 13, blk "A," PSL sur, top salt 1500 ft, top lime 3650 ft, show o&g, dr 4130 ft; B. H. Blakeney 1-B, swc sec 22, blk 44, T&P Ry sur T-1-N, elev 3172 ft, dr 3910 ft. Phillips Pet. Co.-Pure Oil Co.'s E. F. Cowden 1, swc nw¼ sec 14, blk 44, T&P Ry sur T-1-S, elev 3100 ft, top anhydrite 1430 ft, top salt 1470 ft, sg in Yates sand 2780-90 ft, fsh 3285 ft; Cowden 2, swc sec 23, blk 44, elev 3103 ft, dr 2650 ft. Sun Oil Co.-Atlantic O. P. Co.'s O. B. Holt 1, swc sec 5, blk 43, T&P Ry sur T-1-1N, dr 3320 ft.

EL PASO COUNTY—Tri-State Oil Co.'s Chas. & L. M. Kinkel 1, nec sec 237, S. F. No. 7232, sd 535 ft.

FISHER COUNTY—E. M. Campbell et al's D. F. Maberry 1, J. F. Newman sur, lcn. Russ Pet. Co.'s M. S. Reynolds 1, sec e½ sw¼ sec 3, blk "R," W. E. Richardson sur, tested sw after acid treatment, dry and abd 3206 ft. Tide Water Oil Co.-Merry Bros. & Perini, Inc.'s W. E. Hittson 1, ne¼ sec 177, blk 2, H&TC sur, dr 2900 ft.

GARZA COUNTY—M. L. Richards et al's J. R. Sullivan 1, nwc sec 3, S. E. Harper sur, elev 2534 ft, top salt 920 ft, top lime 2317 ft, est 25 bbls oil and 10 bbls water, td 2940 ft.

GLASSCOCK COUNTY—John I. Moore, Loffland Bros. et al's L. S. McDowell 1, c se ne sec 22, blk 34, T&P Ry sur T-2-S, elev 2534 ft, top lime 2137 ft, top Crinoidal lime 9471 ft, showing o&g, sd 9946 ft.

TOM GREEN COUNTY—J. F. Jacobs et al's H. G. DeLong 1-A, Geo. Smith sur No. 1825, dr and abd 534 ft. Twin Oil Co. (McKee Bros.') W. E. Green 1, Levi P. Moore sur, No. 169½, sd 325 ft.

HAMILTON COUNTY—Ireland O&G Co.'s Geo. L. Doyle 1, Isaac Adams sur, elev 1055 ft, top Caddo lime 3050 ft, sd for cas 3306 ft.

HOWARD COUNTY—John I. Moore, Hugh G. White et al's D. H. Snyder 1, swc sec 28, blk 30, T-1-S, T&P sur, elev 2302 ft, dr 1900 ft. H. G. White, Clay and Gibson-Johnson's C. D. Read 1-B, swc e½ sw¼ sec 46, blk 30, T-1-N, elev 2284 ft, so&g 2430-40 ft, dr 2500 ft.

JONES COUNTY—R. B. Farris & Leland Fikes et al's J. W. Jennings 1, c n½ e½ se¼ sec 207, Orphan Asylum-BBB&C Ry sur, dr 1590 ft. R. L. Crawford et al's J. J. Waters 1, sec 1, T&NO Ry sur, blk 2, mim. Putman Oil Co.'s J. J. Steele 1-A, lot 8, C. Allen sur No. 10, A-500, dry and abd 1970 ft. Hal P. Hughes et al's J. D. Farrow 1, sec 6, T&P Ry sur, blk 15, rig. Ungren & Frazier's H. Dorsey 1-A, blk 5, M. Bueno sur No. 197, filled 1500 ft oih fr top sand 1976 ft, sd to cure titles.

LOVING COUNTY—Mason Oil Co.'s M.

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Kyle 1, c nw se sec 22, blk 55, T&P Ry sur, tsp 1, elev 3001 ft, top salt 1585 ft, dr 2645 ft. Porter Ranken et al's W. D. Johnson 1, nw¼ sec 12, blk 57, T&P Ry sur, tsp 1, sd 2170 ft.

MITCHELL COUNTY—The Texas Co.'s I. W. Terry-Chalk 1, sec 62, blk 29, W&NW Ry sur, elev 2347 ft, dr 1755 ft.

PECOS COUNTY—Cardinal Oil Co.'s White-Baker 1, lse 2, sec sw¼ sec 45, blk "Z," HE&WT Ry sur, pb from sulphur water at 1790 ft to 1775 ft, completed 10,000,000 ft gas daily. Gulf's White-Baker 6, c nw nw sec 94, blk 194, GC&SF sur, top salt 886 ft, dry and abd in sulphur water 1790-93 ft; White-Baker 7, nec sec 15, blk "Z," T.C. Ry sur, lcn. C. W. Richards et al's W. Courtney-Pryor 4, c nw nw sec 78, blk "OW," T.M. Ry sur, sd 362 ft. Trans-Texas Oil Co.'s C. M. Caldwell 1, sec sec 27, T&P Ry sur, blk 50, tsp 9, set 8¼-in csg 2412 ft.

REAGAN COUNTY—John W. Emch & Plymouth Oil Co.'s Mrs. E. V. Belcher 1, se¼ sec 4, blk 4½, GC&SF Ry sur, 8 mi nw Big Lake field, elev 2631 ft, top anhydrite 1225 ft, top salt 1300 ft, dry and abd 3667 ft. Dobbs Oil Co.'s W. E. Friend 1, nwc s½ sec 3, Wm. Allen sur, pb from sulphur water at 2465 ft to 2455 ft, used acid and shot with nitro, co with 1500 ft oih. Skelly Oil Co. et al's University-Grayson 1-D, c sw nw sec 33, blk 8, elev 2891 ft, top Cisco 9174 ft, top Simpson 9400 ft, tested salt water in Ellenberger lime 9967 ft, pb to 3100 ft and sd.

REEVES COUNTY—R. W. Clark et al's Radford 1, sec 39, blk 56, PSL sur, sd 502 ft. Herbert Oil Co.'s E. M. Williams 1, sec 17, blk 6, H&GN Ry sur, elev 2536 ft, rust 3268 ft. Kenneth Slack and L. M. White's Francis Reeves 1, c se nw sec 20, blk 56, PSL sur, run csg 837 ft.

RUNNELS COUNTY—Drew Beams et al's W. F. James 1, D. Diaz & N. Travis sur, ur 2208 ft. Grover Hart, J. D. B. Baker & J. S. Dennis' G. W. Ash 1, nec w½ sec 123, E.T. Ry sur, sp and sd. Geo. B. McCamey & Bud Wolverton's Willingham 1, Wm. Wolfgang sur, 1½ mi se Ballinger, ur 1435 ft.

SCHLEICHER COUNTY—J. M. Cooper et al's Bert Page 1, nea c nw¼ sec 40, blk "L," GH&SA sur, Ordovicion test, elev 2270 ft, fsh tools 6180 ft. W. C. Proctor, J. D. Wesner et al's Judkins-Spencer (Pure) 1-A, c sw¼ sec 4, GC&SF Ry sur, blk "V-28," or Hooper-Wade sur, blk "A," sd for csg 680 ft.

SCURRY COUNTY—E. L. Goos et al's J. E. Murphy 1, nec w½ ne¼ sec 114, blk 97, H&TC sur, showing o&g, fsh 1835 ft. Magnolia's J. Wright Mooar 1, ne¼ sec 342, blk 97, H&TC sur, dr 1850 ft. C. T. McLaughlin et al's W. C. Allen 1, c ne¼ sec 398, blk 97, H&TC sur, elev 2554 ft, top salt 772 ft, dry and abd 3009 ft.

STONEWALL COUNTY — Barnsdall Oil Co.'s J. Young 1, nec blk 26, Austin-Williams sur No. 348, dr 2630 ft.

SUTTON COUNTY—Paul C. Teas et al's G. S. Allison 1, sw¼ sec 49, blk "A," GWT&P Ry sur, lcn.

TERRELL COUNTY—F. C. Bates, Jr. & J. H. Felps (was H. H. Sides et al's) J. H. Felps 1, nw¼ sec 5, G. W. Turley sur A-4, sd 5635 ft.

TAYLOR COUNTY—H. Grissman et al's Abilene Fee 1, near c se¼ sec 66, BAL sur, sd 1750 ft. Nat Anderson et al's J. C. High 1, lcn. Skaggs & Brewer's McClure-Young 1, nec s½ sw¼ sec 8, LAL sur, dr 1500 ft.

TERRY COUNTY—R. C. Burleson et al's C. H. Earnest 1, nec sec 17, blk "M," T&T Ry sur, lcn.

UPTON COUNTY—Humble's L. W. Pollok-Gulf 1, c nw¼ sec 4, blk "M," EL&RR sur, Ordovicion lime test, top salt 1670 ft, top Yates sand 2560 ft, dr 7290 ft. J. G. McKenzie et al's Taylor 1, sec sw se sec 22, blk B-2, GC&SF Ry sur, lcn.

WARD COUNTY—Magnolia's Geo. Sealy 1-43, nwc sw¼ sec 43, blk "F," elev 2656 ft, top anhydrite 1036 ft, top lime 2665 ft, hole full sulphur water 2880-95 ft, dr hard lime 2915 ft.

WINKLER COUNTY—Barnsdall Oil Co.'s Brown-Altman 1-A, nwc se¼ sec 6, blk B-5, PSL sur, elev 2844 ft, pb from sulphur water at 3215-18 ft to 3195 ft, shot 100 qts nitro 3145-80 ft, co with 250 ft oih. Emperor Oil Co.'s S. M. Halley 1, sec n½ se¼ sec 12, blk B-12, PSL sur, elev 2764 ft, top anhydrite 915 ft, cemt csg 1380 ft. Fox-Butler & Jefferies' Brown-Altman 2, nwc e½ sw¼ sec 6, blk B-5, elev 2847 ft, cemt csg 2584 ft. Gulf's Keystone Cattle Co. 1, nec nw¼ sec 10, blk B-3, PSL sur, elev 2942 ft, top anhydrite 810 ft, top salt 970 ft, top lime 2090 ft, top O'Brien lime 2240 ft, est 6,000,000 ft gas, dr 3210 ft; Keystone 2, nwc sec 17, blk B-2, elev 2941 ft, top anhydrite 892 ft, top lime 2290 ft, top O'Brien lime 2440 ft, making gas, coring 3590 ft; Keystone 3, nwc ne¼ sec 11, blk B-3, elev 2939 ft, top anhydrite 830 ft, making gas, coring 3715 ft; Keystone 4, nec sec 20, blk B-3, elev 2937 ft, top anhydrite 864 ft, making gas, dr 2830 ft; Keystone 5, nwc sw¼ sec 6, blk B-2, elev 2952 ft, top anhydrite 803 ft, top brown lime 2090 ft, top O'Brien lime 2240 ft, making gas, dr 2965 ft; Keystone 6, nwc ne¼ sec 16, blk B-2, elev 2950 ft, top anhydrite 920 ft, making gas, dr 3040 ft; Keystone 7, nwc sw¼ sec 14, blk B-2, dk; Keystone 8, swc sec 13, blk B-2, dk; Keystone 9, swc sec 18, blk B-2, elev 2946 ft, dk. K. D. Oil Co.'s Pink Mitchell 1, nwc s½ ne¼ sec 23, blk B-10, PSL sur, lcn. Sid Richardson et al's J. B. Walton-Pure 1, nwc sw sw sec 1, blk B-3, PSL sur, elev 2947 ft, top anhydrite 1131 ft, top lime 2115 ft, making gas, dr 3455 ft. Siosi Oil Co.'s J. C. Lovett 1, nec sec 36, blk B-26, PSL sur, making gas, fsh 2727 ft. Skelly Oil Co.'s J. M. Halley 2, ne¼ sec 25, blk B-11, PSL sur, elev 2726 ft, junked gasser, td 3090 ft; J. M. Halley 3, swc nw¼ sec 16, blk B-11, PSL sur, lcn abd; Halley 3-A, near c of s line ne¼ sec 25, blk B-11, PSL sur, mim. Sun Oil Co.'s S. M. Halley 1, sec n½ sec 24, blk B-12, PSL sur, elev 2736 ft, top lime 2485 ft, pb from hfw 3170-73 ft to 2732 ft, flowing little oil and water. J. M. Weaver and Hoffman-Page Co.'s Tobe Morton-Humble 1, sec n½ sec 11, blk B-12, PSL sur, elev 2767 ft, dr 2065 ft.

YOAKUM COUNTY—Honolulu Oil Corp. & C. J. "Red" Davidson's L. P. Bennett 1, c ne ne sec 678, blk "D," John H. Gibson sur, elev 3557 ft, cemt 10-in csg 2420 ft.

SOUTH TEXAS

ATASCOSA COUNTY—R. McIntyre's H. A. Billinck 1, J. B. Woodleff sur No. 246, 7½ mi e Coughran, sp.

BANDERA COUNTY—Palm Winn Oil Co.'s R. B. Watson 1, sec 71, 2 mi n Medina City, set 6⅝ in csg 1580 ft, now dr 1710 ft. Plateau Oil Co.'s R. G. Garrison 1, sec 506, GC&SF sur, 8 mi sw of Medina City, td 3409 ft, ru to dd.

BASTROP COUNTY—Malone & Owens' S. S. Spooner 1, L. Leverenz sur, 6 mi sw Hilbig field, sd 2170 ft. Batts & Jarmon's A. Paris 1, J. Maximilliam sur, sd 1500 ft. Marts & Beavens' Leatherwood 1, W. McLanglin sur, sd 1635 ft. Nelson Puett's Carrol 5, Carrol district, A. Mays sur, sd 2385 ft.

BEE COUNTY — G. M. Church's J. C. Woods 1, J. Ryan, 3½ mi s Beeville, ru. John Deering et al's Pullin 1, W. W. Grant sur, ¾ mi ne Rutledge pool, dr 2150 ft. Dirks Bros.' Johnson 1, J. M. Uranga grant, ¼ mi n Normanna, coring 4160 ft. L. A. Douglas' Imogene Hall 1, T. J. Butler sur, ½ mi ne Dirks pool, dr 2850 ft. Falvey et al's S. D. Copeland 1, B. Q. Hadley sur, ½ mi sw Rutledge pool, dry and abd 3441 ft. Humble O&R Co.'s J. C. Woods 1, Wm. Burk sur, 12 mi se Beeville, dr 4502 ft. Francis P. Hynes et al Theo M. Plummer 1-A, Theo. M. Plummer sub, sec 33, Chessman sur, 4 mi sw Caeser field, dr 500 ft. Littlejohn et al's Borroum 1, Wm. Gill sur, ½ mi nw Rutledge pool, sd 125 ft. Worth Oil Co.'s Rutledge 1-B, 150 ft sl and el 50-ac B lease, A. Hadley sur, Patent 364, 1/3 mi sw Rutledge pool, mim. Thos. J. Wrightsman's A. J. Kimball 1, S. Winship sur, Grayburg area, td 3820 ft, pb 3450 ft, wocs.

BEXAR COUNTY — American Gas Co.'s Oliver 5, M. F. Rodriguez sur, Gas Ridge, sd 2902 ft for csg. James B. Cunningham et al's L. F. Ridder 1, Baerrera sur, ab 50, 2 mi e McDonna, sd 519 ft, wait on rotary. Fay T. Chew et al's Jones 4, sec 9, Jacinto Pena sur, 1½ mi e Adkins, dr 650 ft. M. A. Fredrich's Fee 1, F. Recardo sur, 12 mi sw San Antonio, dr 1100 ft. C. J. LeCompte's A. Herbst 1, M. Leal sur, 4 mi s San Antonio, dr 90 ft; Mayfield Park 1, sd 362 ft. McPhee & Briggs' Florence Lamb 1, M. de Luna sur No. 4, 22 mi s San Antonio, td 2147 ft, set whipstock 1400 ft. Magna & Morgan's J. Kirkwood 1, Desaque sur, 9 mi sw San Antonio, lcn. Mid-Tex Prod Co.'s Walker 1, S. N. Dobie sur No. 79, 10 mi n San Antonio, sp. J. H. Parker's M. McCloskey 1, F. A. Desaque sur, 5 mi nw Somerset, dr 525 ft, last report. Carrol C. Raborn's A. B. Stephens 1, P. N. Hays sur, 10 mi e San Antonio, sd 410 ft; Claud McCauley 1, Wm. Harris sur No. 52, 4 mi s San Antonio, dr 850 ft; Lee Upson, Palfrey 1, Almaniz League, 5 mi se San Antonio, lcn.

BLANCO COUNTY—R. T. Rowe & W. E. Nixon's Polk Morresey 1, T. H. Webb sur, No. 91, 2½ mi e Blanco City, dr.

BROOKS COUNTY—United Prod. Co.'s K. J. Hocker 1, Palo Blanco de Maguellas gr., Palo Blanco area, set 600 ft sur csg, re-drlg.

CALDWELL COUNTY—Ballard & Whitting's A. G. Bridges 1, S. Seal sur, dr 950 ft. R. S. Bolling et al's C. F. Robertson 1, John A. Neill sur, dr 650 ft. Exploration Dev. Co.'s W. T. Mooney 1, S. Seal sur, completing 2150 ft. O. W. Killam's W. D. Moore 1, 150 ft nel and sel of 44 ac tr, J. Burleson sur, 1½ mi s Lytton Springs field, lcn. Ogden & Reed's H. Brewer 1, Martinez sur, td 1745 ft, pb 1525 ft, sd. R. Y. Walker's Walker Bros. 2, S. Seal sur, sp.

CALHOUN COUNTY — Continental Oil Co.'s Am. National Realty Company (Moody) 2, sec 6, blk C, P. Garcia sur, 9 mi se Seadrift, sd 6676 ft. Empire Gas & Fuel Co.'s E. Hartman 1, M. Sanchez sur, Port Lavaca, dr 5825 ft. Halliburton Oil Co.'s D. Burton 2, M. Sanchez sur, Port Lavaca, td 6238 ft, set 7 in csg 6220 ft in sand, wocs. Mart Oil Co.'s Brundett 1, 330 ft nel and nwl, sec 8, Wm. Little sur, Matagorda Island, set 172 ft 16 in csg, now sd. Steinberger Pet. Corp.'s W. A. Shofner 2, Port Lavaca, M. Sanchez sur, sp. Texas Co.'s Hackney 1, B. Rodriguez sur, 5 mi sw Port Lavaca, dr 5975 ft stky shale; W. Shofner 1, M. Sanchez, Port Lavaca, td 6262 ft, test sur, pb 6245 ft, completing.

CAMERON COUNTY — J. F. Anderson's Browne 1, blk 397, 3 mi ne Rio Hondo, mir. Kingwood Oil Co.'s Champion 1, 311 ac tr, 7 mi nw Brownsville, dk.

DE WITT COUNTY—R. Bourke's Steinman 1, Uriah Blue sur, 6 mi s Yoakum, ru. J. C. Crossman's R. Kleberg (was Stewart Egan Oil Co.) J. J. Tumlinson sur, 2 mi nw Cuero, sd 80 ft, to move on new rig and dd.

DIMMIT COUNTY — Diamond Half Oil Co.'s A. Eardley Est. 1, 3000 ft swl, 400 ft nwl R. G. Morgandale sur No. 6, ab 1322, 5½ mi nw Carrizo Springs, lcn. Joe Lundin et al's Nueces Lands Irrigation Co. 1, lot 16, blk 7, Bermuda Lands sub, 12 mi ne Carrizo Springs, lcn.

DUVAL COUNTY—Benedum & Tree's G. B. Parr 1, San Andres gr, 4 mi se Sweden, dr 3000 ft. Bridwell Oil Co.'s M. C. Hubbard 1, 330 ft nl and wl, sec 71, 1 mi s Loma Novio, clear lcn; J. D. Sutherland 1-A (Sun lease) w ½ sec 122, Hoffman area, sand 2697-2712 ft, standing 2400 ft in fluid, some oil, mostly sw. Dulce Oil Co.'s H. Serna 1, n nw sec 384, Seven Sisters, dst 2509-15 ft, Government Wells, sand, show sw, cored to 2525 ft, sd. Harvey & Henderson's D. Ruiz 1, 990 ft el and 1990 ft nl, sur 125, 2 mi e Sarnosa field, sp. Humble O&R Co.'s T. D. Smith 1, sec 382, ½ mi w Seven Sisters, dr 2258 ft, sandy sh Intrepid Oil Co.'s Parr Ranch, sec 115, sd 5305 ft for orders. Lipscomb & Daubert's M. C. Hubbard 1, 330 ft nl and el s ne, sec 75, sw Loma Novio field, lcn. D. H. O'Byrne's Ball 1, sec 3, Agua Poquita gr, 2 mi sw Sweden, dr 4100 ft. Santa Clara Oil Co.'s Wood Welder 2, sec 385, Seven Sisters, Government Wells sand 2452-68 ft, set 7 in csg, woc. T. M. G. Drlg. Co.'s Davidson 1, sec 90, dr 2448 ft.

FRIO COUNTY—Amerada Pet. Corp.'s W. H. Smith 1, J. B. Mason sur, No. 322, 4½ mi sw Pearsall field, dr 5725 ft; Kothman 1, D. L. Crouch sur No. 90/9, ½ mi s Pearsall field, completing, sand 3957-61 ft. W. D. Ba-

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con et al's J. F. Burns 1, T. H. Clifton sur, sw Bigfoot, lcn, to commence shortly. Midland Oil Co.'s S. A. Joint Stock Land Bank, BS&F sur, No. 2, 1 mi s Pearsall town, dr 1560 ft.

GONZALES COUNTY—Resource Oil Co.'s Otto Lanbeck 1, J. M. Salinas sur, 3 mi w Gonzales, prep to sp.

GOLIAD COUNTY — Keystone Royalties Co.'s C. B. Wood 1, John Shearn sur, 3 mi e of Berclair, ds stuck 5961 ft, completing thru ds as gasser, sand 5956-61 ft, est 15,000,000 cubic ft, wp 650 lbs, thru ¾ choke.

GUADALUPE COUNTY—J. E. Clark's W. B. Lay 1, J. K. Davis sur, dr 2260 ft. Gode et al's Hicks 1, E. de los Santos Coy sur, ur 535 ft. Grayburg Oil Co.'s McKean 15, Cottle sur, Luling, plugged and abd 2083 ft, top Edwards lime 2067 ft. A. D. Locke's Mrs. N. S. Lowman 1, C. Campbell League, 1½ mi nw Staples, sd 1810 ft. Minerals Corp. of Texas' Allen Phillips 1, Cortines sur, 10 mi sw Seguin, sd 868 ft. W. A. Scrutchin's A. H. Smith 1, J. B. Cowan sur, w Staples, sd 550 ft. Suttle et al's Baenzinger 1, A. O. Mansola sur, testing 2155 ft. W. J. Walton's Zoboroski 2, J. D. Clements sur, 6 mi se Seguin, td 2380 ft, set 7 in csg 2177 ft, top Austin chalk 2203 ft, acidized, now completing.

HIDALGO COUNTY — Bluff Pet. Co.'s Knowles 1, sh 14, por 49, 3 mi sw Mission, dr 4320 ft; sand 3843-54 ft, carried slight g. Cortez Oil Co.'s C. E. Smith 1-C, tr 3-B, por 41, se side Samfordyce, dr 2850 ft. E. A. Davis et al's Tomas Flores 1, sh 312, por 38, sw Samfordyce field, dry and abd 3080 ft. K. D. Harrison & D. D. Oil Co.'s Mrs. Lula George 2, tr 13, por 41, e Samfordyce field, td 3101 ft, pb and perf csg 2752-58 ft, comp 8 bbls per hour, ⅛ ch. Maddox, Turnbull & Irwin's John H. Shary 1, lot 21, Shary sub, por 58-59-60, 4 mi se Mission, dr 1200 ft, 10 in csg set 210 ft. Mundy & Sons' Guerra 1, tr 12, por 41, 4000 ft n Samfordyce field, lcn. Union Sulphur Co.'s ARGL&I 1, 2297, lot 59, N. Capisallo district, Llano Grande gr, 1½ mi ne Mercedes field, td 6431 ft, dr 2625 ft, sdtr hole; ARGL&I Co. 2, lot 2182, blk 86, N. Capisallo District, Llano Grande gr, offset to discovery, td 8044 ft, dr 6350 ft in sdtr hole; ARLG&I Co. 4, lot 1, blk 99, N. Capisallo district, Llano Grande gr, 1½ mi sw discovery, set 1200 ft 10¾ csg, wocs.

JIM HOGG COUNTY — Darby Pet. Co.'s Holbein 1, blk 5, Las Animas gr, dry and abd 4014 ft. Miller et al's Yeager 1, blk 6, sec 20, fsh 3530 ft. Phillips et al's Allen 1, blk 293, Pippin sub, Randado gr, sp. Sun Oil Co.'s L. R. Brooks 1, Domingo Abajo grant, dry and abd 4812 ft.

JIM WELLS COUNTY—A. M. Hagen et al's Robt. Adams 1, State sur No. 10, 2 mi sw Alford, sp. O. W. Killam's W. D. Wade 7, lot 1, blk 6, Bode sub, S. A. Agua Dulce sur, 1000 ft se No. 4, Sandia, dr 3500 ft. Magnolia Pet. Co.'s A. A. Seeligson 6, V. Canale sur No. 218, Premont, co to dd fr 6010 ft. Maher & Shira's Schaeffer 1, S. Bigham sur, dry and abd 5505 ft.

KARNES COUNTY—W. C. McBride, Inc.'s N. B. Boltingouse 1, J. S. Menefee sur, 10½ mi e Green, coring 2750 ft. H. A. Pagenkoph et al's Sahm 1, Elijah H. Garret sur No. 257, 12 mi sw Kenedy, dr below sur csg.

KENDALL COUNTY — J. E. Freeman's Gerfers 1, Mark Hodgson sur No. 796, sp. Southwestern Dev. Synd., Ltd's, Willie Werner 1, Torrey sur No. 781, Sisterdale area, dr 190 ft.

LEE COUNTY—McNeill Pet. Co.'s G. B. Bately 1, Wm. Nichols sur, 14 mi nw Lexington, prep to sp.

LIVE OAK COUNTY — Benco Oil Co.'s Elizabeth Mahoney 1, Mark Killely sur, 3 mi w Three Rivers, sd 78 ft, choking title. Henderson Coquat's L. A. Reagan 1, McGloin sur, sd 1240 ft. Gem Oil Co.'s J. E. Lyne 1, sec 134, M. M. Lyne, ab 718, dr 2265 ft. Houston Oil Co.'s Cartwright 32, M. Trudo sur, Lucas Area, td 6787 ft, pb 5304 ft, now sd. Lion Oil & Ref. Co.'s O. E. McNeill 8, 330 ft nel, 1100 ft sel of blk 9, Jane Curry sur, ne outpost well McNeill field, sand 4363-81 ft, dst flowed oil in 3 min, set csg, wocs. Ray S. Nixon et al's Chamberlain Mortgage Co. W. Hill sur, blk 8, sec 174, 3 mi s Fashing, dr below sur csg. E. W. Turner's J. W. Walker 1, blk 9, C. Simmon's sub, re-dr 65 ft. Mills Bennett's Walton & Shipp 1, P. Salinas sur No. 11, ne of Dinero, sp.

McMULLEN COUNTY—Bussa Oil Co. of Texas' F. B. Horton 1, James A. Jean sur No. 20, 3 mi sw Tilden, lcn. Darby Pet. Co.'s E. R. Hagist 1-C, sec 108, Loma Alto, sd for water 2320 ft, slight show of g 2190-92 ft. John C. Gibson's Masur & McDowell 1, sec 19, HT&B Ry. sur, 4 mi sw Tilden, dr 690 ft, top Government Wells, sand 583 ft; G. C. West 1, lot 1, blk 4, sec 14, HT&B Ry. sur No. 1092, 5 mi sw of Tilden, sd 465 ft. Humble O&R Co.'s J. W. Atkinson 1, sec 13, Loma Alto, dr 1505 ft, shale, delayed acct weather. Loma Oil Co.'s L. Jacob 2-W, Benham sur No. 9, show small amount of oil 925 ft, sd; L. Jacob 5-W, Benham sur, dr 450 ft. C. W. Points et al's Fahler 1, Geo. Pittuck sur, 5 mi w Calliham, sd 812 ft. Texas Inland O&G Co.'s H. L. Lark 1-A, M. O'Boyle sur, ½ mi s Jacob field, dr 850 ft. Texio Oil Co. & Illinois Pet. Co.'s J. W. Atkinson 2, sec 13, dr 2180 ft.

MEDINA COUNTY—Callihan & Roberts' R. Taylor 1, A. Brushet sur No. 135, 5 mi sw Hondo, sp and sd. Joe Dupree's Hugo Batot, John Ball sur No. 1478, 7 mi sw Hondo, sd 421 ft for repairs. Gates & Hill's Odem 1, H. Castro sur No. 174, 5 mi sw Hondo, sd 266 ft for csg. A. F. Holliday's J. Griffith 1, Geo. Frank sur No. 416, Saxet area, dr 5460 ft.

NUECES COUNTY—Magnolia Pet. Co.'s Bobby Baldwin 1, sec 39, J. S. McGregor sur, 4 mi s Clarkwood, dst 3878-82 ft, dst 1800 ft, pipe line oil, ¼ and ¾ chokes, 15 min, set csg, wocs. Southern Mineral's Co.'s Rand Morgan 1, Elliot sur, 2¾ mi sw Saxet field, dr 7195 ft.

REAL COUNTY—H. J. Heartwell et al's L. J. Haby 2, AB&M sur No. 175, no rept.

REFUGIO COUNTY—J. & C. Co.'s J. F. Welder 1, 1590 ft nwl, 670 ft nel of J. Farley sur, ab 150, nw Greta field, lcn.

SAN PATRICIO COUNTY — Benson & Jones' E. H. Welder 1, sec 38, Welder sur, s of Plymouth, ru. Conroe Drlg. Co.'s R. H. Welder 1-D, Portillo sur, 1 mi n Sinton pool, dry and abd 6007 ft. Continental Oil Co. & Atkins & O'Neill's J. F. Welder 3, Juan Hart gr, ½ mi of Angelita field, sand 5547-61 ft, dst show o, g and sw, whipstock 5307 ft. Heep Oil Corp.'s E. H. Welder 2-E, sec 46, Welder sub, Plymouth area, set csg 5666 ft, completing; E. H. Welder 3-E, sec 46, Welder sub, Plymouth area, dr 5100 ft. Magnolia Pet. Co.'s Corpus Christi Bank & Trust Co. 1, H. H. Hunter sur, 9000 ft sw Plymouth field, dr 4998 ft. Plymouth Oil Co.'s E. H. Welder 4-C, sec 48, Welder sub, Plymouth pool, completing 5639 ft; E. H. Welder 5-C, sec 45, Welder sub, Plymouth pool, dr 5150 ft; E. H. Welder 6-C, sec 48, Welder sub, Plymouth pool, dr 2500 ft; E. H. Welder 7-C, sec 45, Welder sub, Plymouth pool, dr 2250 ft; E. H. Welder 8-C, sec 49, Welder sub, Plymouth pool, lcn; E. H. Welder 1-D, Portillo sur, se Sinton field, dr 6525 ft. Violet Oil Co.'s E. H. Welder 1, sec 47, Welder sub, sw Plymouth field, dr 3450 ft.

STARR COUNTY—Accumulative Royalties Co.'s H. F. Ferry 1, lot 8, blk 15, B&B sub, por 86, e of Rio Grande City, dr 1640 ft. C. R. Borah et al's A. Guerra 1, sh 6, San Jose gr, 2 mi n La Reforma, sd 3210 ft, John H. Clopton's Kelsey Bass 1, blk 5, sec 10, por 86, e Rio Grande City field, dr 2315 ft. H. C. Harter's Sanchez 2, lot 3, sh 72, por 72, 9 mi n Roma, testing 503 ft. Henshaw Bros.' S. Sanchez & Bro. 1, sec 344, dry and abd 3745 ft. Hughston Oil Co.'s Wood-Gregg 1-A, por 84, w Rio Grande City, sd 3360 ft for boiler repairs. A. Nix et al's Starr County Cattle Co. 1, blk 57, JL sub, por 89, sw Barbacoas field, taken over from Armstrong, Emanuels & Adams, was abd, td 2715 ft, pb and perf csg 2245-56 ft, to test. W. W. Zimmermen's F. Doyno 1, blk 1, tr 4, por 81, n Rio Grande City field, sand 1444-50 ft, completing.

VICTORIA COUNTY—Crown Central Pet. Co.'s Schovajsa 1, lot 15, Rupley sur, sw Placedo discovery, no report. Eastern Texas Oil Co.'s Henderson & Pickering 1, blk 19, Benevides sur, Placedo, fsh for ds below 5750 ft; J. E. Schovajsa 1, lot 14, Rupley sur, 1 mi sw Placedo field, td 4789 ft, pb comp gasser spraying oil; E. Williams 1, E. Benevides ½ mi ne Placedo field, no rept. Gillespie & Superior Brandt 1, lot 11, Rupley sur, Placedo field, sd 6255 ft; J. Janis 1, Nancy Dean sur, Placedo field, td 4756 ft, 7 in csg set 4737 ft, completing. Magnolia Pet. Co.'s Henderson & Pickering 1, lot 18, E. Benevides sur, Placedo field, dr 6115 ft. Martex Oil Co.'s Mitchell 1, E. Benevides sur, ¾ mi dis in Placedo field, no rept. E. L. Smith & Oil Co. & Gulf Pro. Co.'s Henderson & Pickering 1, Brunson sur, 2½ mi sw Placedo discovery, td 4803 ft, top sand 4764 ft, pb and completing, show for producer. Texas Co.'s A. M. McFaddin 9, J. M. Rine sur, McFaddin area, sd 6200 ft, pb 4400 ft, sd. Trans-State Oil Co.'s Robt. Kanster 1, R. Manchola gr, w Coleta Creek field, dr 2175 ft.

WEBB COUNTY—Allison et al's M. Jones 1, sec 1640, 1 mi sw Moca field, sd 910 ft. Rose B. Barnhardt's de la Garza, sec 262, 2 mi n Carolina-Texas field, testing 2395-2406 ft. Mills Bennett Oil Co.'s J. Lopez 2, 330 ft sl and el of discovery tr, or w½ tr 10-B, (100-ac) sec 73, dr 2100 ft. Senator James Neal et al's Laurel 1, sec CCSD&RGNG sur, 3 mi e Mirando City field, lcn. Smith et al's M. Jones 1, sec 1640, 1 mi sw Moca field, dr 650 ft. W. H. Vernor, Tr.'s Jeffries Ranch 1, blk 13, sec 1453, 30 mi nw Laredo, lcn.

WILLACY COUNTY—Kingwood Oil Co.'s Stillman Ranch 1, lot 16, blk 30, sh 44, Stillman Ranch sur, San Juan Carricitos gr, dr 4475 ft. South Texas Dev. Co.'s F. Armendiez 1-A, sh 4, prep to re-dr 3660 ft.

WILLIAMSON COUNTY—Fuch & Walters' F. Ollman 1, Bevil sur No. 56, sd 875 ft. H. F. Goff et al's A. Klotz 1, W. Cartwright sur, sd 1210 ft. W. L. Stephens et al's J. P.

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Carlson 1, S. C. Jones, 10 mi sw Taylor, dr 925 ft, Del Rio.

WILSON COUNTY — Midland Oil Co.'s Billings 1, 7½ mi sw Smiley, sp. (Also reported in Gonzales County).

ZAPATA COUNTY—Cox et al's D. Yzaguire 1, sh 17, por 15, S. Lopeno field, fsh 2478 ft. H. C. Dean et al's J. M. G. Martinez 1, blk 34, sh B, W. R. Duke sub, Charco Redondo gr, sd 100 ft. Gem Oil Co.'s J. G. Ramirez 1, sh 3, por 18, ¼ mi se Lopeno field, fsh 3125 ft. J. J. O'Hern's Alexander 1, sh 7, por 22, n of Lopeno field, dr 500 ft. Humble O&R Co.'s E. Dominguez 1, por 31, set sur csg 472 ft. Martinez & Daniels' A. M. Bruni 1, blk 44, San Ignacio sub, Borrego gr, td 1834 ft, set 7 in csg 1828 ft, wocs. E. L. Smith Oil Co.'s R. Hinnant 1, blk 27, sec 307, dr 2200 ft. Stover et al's F. G. Martinez 1, blk 125, sh 1, El Grullo gr, dr 595 ft.

TEXAS GULF COAST

ANGELINA COUNTY—Lee Tex Oil Co.'s A. H. Geisler 1, nw of Lay, B. J. Thompson sur, setting strainer and liner to make production test, td 2053 ft. Bryan & Lyon's Frank Allen 1, 8 mi nw of Lufkin, Barr & Davenport sur, ru.

AUSTIN COUNTY—Deering & Kayser's T. A. McClenton 1, se of Bellville, Thos. Bell sur, dr shale 2310 ft. Paul English's Kuhn 1, se of Kenney, D. Chandler sur, abd lcn.

BRAZORIA COUNTY—Amerada Pet. Co.'s Houston Farms Dev. Co. 1, Rattlesnake Mound, Perry & Austin sur, No. 106, heaving shale 4450 ft. Harrison & Abercrombie's Bernard River Land Co. 2, Old Ocean, Chas. Breen sur, dr shale 6080 ft. Quintana Pet. Co.'s G. L. Wood 1, e of Nash Dome, Thos. Alberr sur No. 4, dr shale 4180 ft. The Texas Co.'s Freeport Sulphur Co. 1, e of Canal, Areola sur, going to perforate from 3456 to 3468 ft.

CHAMBERS COUNTY—Glen McCarthy & R. A. Mason's R. M. White 1, nw of Anahuac, J. McGahey sur, dr shale 5930 ft.

COLORADO COUNTY—Clyde Creighton et al's H. Witte 1, s of Bernardo, H. Witte sur, woc 350 ft. Coyle-Concord's Fee 1, I&GN sur, sec 45, dr shale 700 ft. Trans-State Oil Co.'s Frank Weinhuhn 1, due north of Columbus, F. A. Zisemmerscheidt sur, dr shale 1750 ft.

FT. BEND COUNTY—C. B. Bunte's S. J. Winston 1, n of Rosenberg, S. Isaacs sur, dk on ground.

GALVESTON COUNTY—Coast Pet. Corp.'s Maco Stewart 1, w of Dickinson, W. K. Wilson sur, fsh 8016 ft.

GRIMES COUNTY—Dillinger & Hammer's Lane 1, e side of County, R. P. Stewart sur, dk.

HARRIS COUNTY—Graham & Gardner's A. E. Hegar 1, n of Hockley, John W. Clifton sur, dr shale 3680 ft. Hebert, Still & Hooper's A. Backman 1, Ogburn prospect, J. Ogburn sur, preparing to test 6448 ft.

JASPER COUNTY — Marathon Oil Co.'s Jasper County Lbr. Co. 1, se of Jasper, T. C. Holmes sur, ru.

JEFFERSON COUNTY—Sun's Hebert & Broussard 1, s of Lovall Lake, B. Blackmon sur, coring water sand 4402 ft.

LIBERTY COUNTY—Jack Frazier's Lyhott Buffon 2, n of Hardin, J. Robeson sur, preparing to test 7550 ft.

MATAGORDA COUNTY — Continental's Feife 1, Citrus Grove, J. S. Chriswell sur, dr shale 6095 ft. Helmerick & Payne's H. B. Hawkins 1, Sheppards Mott, D. A. McCarthy sur, dr shale 4525 ft. H. M. Smith's Wadsworth Estate 1, s flank of Sheppards Mott Dome, S. R. Fisher sur, sd 8418 ft.

MONTGOMERY COUNTY — V. E. Bolyard's Atkinson 1, n of Pinehurst, R. George sur, dr shale 1425 ft. Gholson et al's A. Parks 1, nw of Willis, J. Lindley sur, preparing to move rig to new location. Paul Sanders et al's Tex. L. L. L. Co. 1, Splendora, Walker County School Land sur, dr shale 4320 ft.

SAN AUGUSTINE COUNTY—The Hunter Co.'s Long Bell Lbr. Co. 2, Galloway sur, lcn.

SAN JACINTO COUNTY — Darby-Jones-McBee Drilling Co.'s J. R. Bennett 1-A, David Beer sur, dr shale 2800 ft.

TRINITY COUNTY—Gulf's Trinity County Lbr. Co. 3, s of Apple Springs, A. E. Westall sur, dr shale 2425 ft.

WHARTON COUNTY—Texas Co.'s Pierce Estate A-2, 2100 ft nw of A-1, I&GN sur, sec 39, preparing to make production test.

Bentonite

American Colloid Sales Division, Inc., 363 West Superior Street, Chicago, has issued a new series of technical bulletins on bentonite. The set of bulletins consists of 69 printed pages (8½ x 11) in a flexible loose-leaf cover. New sheets will be issued frequently and free copies of each will be mailed to purchasers for a period of one year from date. Price of the set is $2.00. Free copies will be sent on data sheets on specific subjects that are of interest to those using bentonite or desiring to experiment with it.

This Week with the Industry's EQUIPMENT SUPPLIERS

Fred E. Cooper Moves To Larger Quarters

Fred E. Cooper, Tulsa, has purchased from Howell E. Hays, a factory building and approximately four acres of ground at Hale Station on the Sand Springs road. The building is a steel reinforced concrete and brick structure 408 feet long, 85 feet wide, and two stories high, with Sand Springs trackage and full length loading dock on one side.

The building is being remodeled to meet the requirements for high speed production. The grounds will be landscaped. The Fred E. Cooper organization has been in Tulsa for nine years and previously has made two moves, each time occupying larger quarters necessitated by increased business.

Gignoux to Direct Reed Roller Bit Company Research

Reed Roller Bit Company has announced appointment of F. C. Gignoux as director of research for the company. After graduation from the University of Nevada with a degree in engineering, Gignoux served nine years

F. C. GIGNOUX

with Shell in the engineering and construction departments, the last three years being spent in foreign fields. He has been associated with Reed Roller Bit Company since 1927, stationed in California. He now will be located at Houston.

International Nickel Expands Development Staff

A. J. Wadhams, manager, development and research The International Nickel Company, has announced the addition of Harold L. Geiger to the field staff of that department.

Mr. Geiger's experience has been with the operating and metallurgical departments of the Inland Steel Company and since 1929 as chief metallurgist of Wisconsin Steel Company—a subsidiary of International Harvester Company. His experience and special training have made him thoroughly familiar, not only with the present day metallurgical problems confronting the steel mills, but also with the proper application, machining and heat treatment of the steels used in heavy duty machinery and equipment.

Because of his intimate knowledge of the special problems of midwestern machinery manufacturers Mr. Geiger will operate for the first few months out of the Detroit office of the company. Later, he will make his headquarters in New York, where his services will be available to other industrial areas as well.

New Expansion for D+B In Mid-Continent

The D+B Pump & Supply Company, division of Emsco Derrick & Equipment Company, has completed plans for the expenditure of $100,000 in the Mid-Continent area for the enlarging in the D+B plant in Dallas, Texas, installing the latest precision machinery and equipment for the manufacture of sucker rods, pumps and fittings, and the construction of field service shops in the various major oil fields.

Well Equipment Company Celebrates Anniversary

Well Equipment Company, Houston, one year old July 2, celebrated its anniversary by entertaining its stockholders and employes at an informal dinner dance at San Jacinto Inn. C. K. Stillwagon, president of the sales organization, acted as host to the group of 22 men and women present.

This company serves as the factory sales representative for a group of manufacturers.

C. H. M. Roberts Presented Paper at Collied Symposium

C. H. M. Roberts, director of research for Petroleum Rectifying Company of California, attended the Collied Symposium held at Cornell University June 21 and 22, and presented at this meeting his paper entitled "Dynamic Dispersions and Emulsifications." This is the second paper Mr. Roberts has presented before the Collied Symposium, the first being at Ottawa, Ontario, Canada, during 1932, on the subject "A New Theory of Emulsions."

Thomas C. Swope Appointed Representative of Kennedy Valve

Kennedy Valve Manufacturing Company announces the appointment of Thomas C. Swope as its Texas and Louisiana representative, with headquarters at 863 Fifth Street, Beaumont, Texas.

NEW PRODUCTS FOR THE FIELD
Machinery • Tools • Catalogs • Books

PUMPING UNITS

National Supply Company

National Supply Company, Toledo, Ohio, has announced the addition to its line of pumping equipment the Types TH-800 and THD-800 unit pumpers. These outfits are complete, compact and self-contained units capable of doing the work at heavy standard rigs. They are adaptable to a wide range of pumping conditions and several types of pumping installations. They are mounted on a base high enough to permit installations on the derrick floor. The cranks clear the floor without a foundation, and if desired the unit may be installed on concrete foundations with or without base.

A single or double reduction gear is available for low speed single cylinder engines, while for high speed multi-cylinder engines or electric motors, either flat or V-belts are available.

National Unit

BULKHEAD

Lukens Steel Company

Lukens Steel Company, Coatesville, Pa., has announced development of a new bulkhead system for fluid storage on oil tankers, and for other vessels handling fluids. The complete bulkhead system is composed of a series of pressed steel plates, integrated by welding. Each pressed plate combines two elements, an elliptical bulge, and one half of a channel-shaped member. The latter is completed when two pressed plates are welded together.

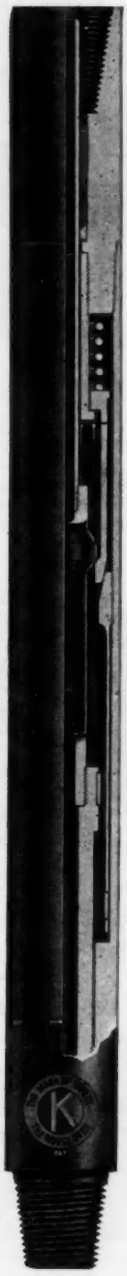
The elliptical bulge is the proper shape for receiving the fluid pressure. It transmits its share of the fluid pressure load to the vertical webs by a complicated form of hoop tension. The channel transmits a share of the fluid pressure load to the same vertical web and preserves continuity essential for whatever diaphragming action may be necessary.

Compared with a conventional riveted bulkhead in a tanker with 66-foot beam and 38-foot molded depth with two longitudinal bulkheads, this proposed bulkhead system will save about 25,000 pounds of weight, equivalent to a reduction of 26 percent of bulkhead weight, according to the designer.

ROTARY DRILLING JAR

Kammerdiner Rotary Jar Company

Kammerdiner Rotary Jar Company, 237 South Highland Ave., Los Angeles, has developed an automatic straight-pull rotary jar that employes a new operating principle, according to the manufacturer. By using this tool it is claimed that the blow can be varied to suit requirements of the situation at any time, since it can be adjusted in the hole to give the desired intensity. This adjustment is made lower or higher without pulling out of the hole. Its design is the result of a number of years of development work, and the tool is constructed to take into consideration all factors of engineering, it is claimed. The jar is simple in operation, and is merely placed in the drill pipe for service. It is operated by raising and lowering the pipe whenever a blow is desired.



MULTI-STAGE PUMPS

Allis-Chalmers Manufacturing Company

Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin, has developed the new Type "MM" multi-stage pump, for heads from 400 to 1600 feet, and capacities up to 400 gallons per minute. It is designed along the general lines of the well known Allis-Chalmers Type "M" Pump.

The new pumps are horizontal shaft, split casing, double suction, bronze fitted, the use of double suction runners equalizing the end thrust and eliminating the use of internal balancing arrangements. Each stage of the casing has a spiral volute and between stages the liquid flows from one volute into an exceptionally long diffusion nozzle and then into a long sweep return bend to the inlet passages of the following stage. This construction results in maximum practical regain of pressure between stages as the liquid is directed along smooth flow lines without sudden changes in velocity. The pressure on the stuffing boxes is kept to approximately the suction pressure.

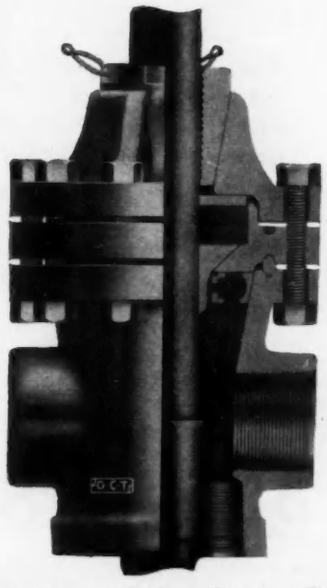
They are particularly economical for production, refinery, boiler feed and other high head pumping service, the manufacturer claims.

SAFETY TUBING HEAD

Oil Center Tool Company

Oil Center Tool Company, Houston, announces Type T-6 tubing head, which allows a well tobe safely drilled in with either oil or water, thereby keeping the drilling mud off of the oil bearing sand. This head is shown here in a running position with two packing glands and in a set position with a single gland. As many of these stripper packing units can be employed as the job may require, building one upon the other, as shown in the open position, by adding extra bowl and packing.

The manufacturers explain that this

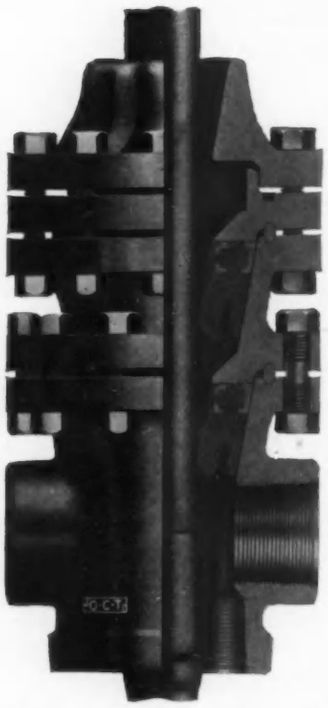


Set Position, with One Packing Gland

head makes possible drilling in against pressure, running tubing against pressure, and washing behind the liner, up as many joints as is desired. The slips on which tubing suspends can be used for running tubing.

An additional safety factor embodied in the new design is that the O-C-T Type "H" blowout preventer is made to fit on top of the head.

The trouble encountered in sealing off the oil sand by the weight of present day heavy drilling mud necesssary to combat blowouts gave rise to this new head, which offers a mechanical means of protecting against pressure.



Running Position, with Two Packing Glands

GAS BURNER

Miller Fuel Engineering Company

Miller Fuel Engineering Company, Houston, announces the Miller oil field gas burner which is made in one size only, which pre-mixes gas with a large percentage of air before entering the fire-box, and which is fired on wet gas as readily as dry gas.

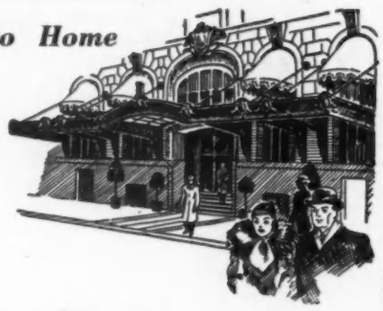
This improved design has only one orifice for easier gas control. The burner capacity is governed entirely by the gas flow through the ventura, enabling the user to avoid the carrying of various sizes in stock. The manufacturers recommend increasing the size of the orifice where gas pressure is lower than one pound.

The manufacturers claim this type burner develops higher flame temperature, due to primary air ratio, permitting higher ratings without the use of stack blowers. The burner is below the fire-box, keeping combustion space free to utilize the full fire-box for flame.

This burner is constructed of cast iron, with the exception of the burner manifold, which is of a special heat-resisting alloy. Gas is admitted in the front of the mixing tube through one orifice, spraying through the mixing tube, inspirating air from the outside and drawing it into the tube for mixture with the gas before leaving the burner parts. The mixing tube was designed to eliminate air friction and turbulence, so that the energy of the gas stream is used to fullest advantage. As a result, 65 percent of the air needed for combustion may be inspirated by the gas stream without using the natural boiler draft.

Miller Gas Burner

"The Chicago Home of the Oil Industry"



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When next in Buffalo, stop at the Hotel Lenox. You'll find every stop deserves a stay. Comfortable rooms. Memorable meals. Smart service. Only five minutes from the downtown district, yet removed from downtown din. You'll sleep. You'll eat. You'll resolve to come back again.

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140 North Street Near Delaware

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CLARENCE A. MINER, President

Squeaks from the Bull Wheel

Just Once

The guest was being shown to his bed in the haunted room by his host's faithful, but rather sinister-looking, retainer.

At the door of the room they pased.

"B-b-by the way," asked the guest, "has anything—er—unusual ever happened in connection with this room?"

"Not for over fifty years, sir."

"And what happened then?"

"A gentleman who spent the night here appeared at breakfast the next morning."

His Job Hardest

"So your wife takes in washing?" the judge asked a man who was up for vagrancy. "What do you do?"

"Well, Judge," explained the accused, "I takes in the washin,' the woman does the washin', I takes the washin' back, the old woman collects the money and I talks her out of most of it."

Local Slants

A Chicago matron was recently seated next to a Mrs. Cabot at a Boston tea party. During the crisp exchange of conversation, Mrs. Cabot advanced the information that "in Boston we place all of our emphasis on breeding." To which the Chicago woman responded: "In Chicago, we think it's a lot of fun, but we do manage to foster a great many outside interests."

Legally Speaking

The Counselor—Do you object to your wife's spending all her time running women's clubs?

The Judge—I did, but she overruled the objection and her mother sustained her on appeal.

Counter-Claim

"Doctor, don't you think you could make your bill a little lower for attending my boy when he was sick with the measles?"

"The bill includes 22 visits, you will remember."

"Yes, doctor, but he infected the whole school."

In Reverse

The collector approached a parishoner and held out the box.

"I never give to missions," whispered the parishoner.

"Then take something out of the box sir," whispered the collector, "the money is for the heathen!"

Yes, Which?

He was genuinely enthusiastic about the virtues of temperance, but his face made people doubt him.

Toward the close of his lecture, he squared his shoulders, held his rather large head erect, and said: "I have lived in this town all my life. In this town there are fifty-five public houses, and I am proud to say that I have never been in one of them!"

Then came a voice from the back: "Which one is that?"

Not Now

"I never heard such impudence in all my life. You have a lot of nerve to call yourself a lady's maid."

"I don't call myself that now, ma'am; but I was a lady's maid before I got this job."

Hot Stuff

"What made you drop that hot towel on my face?"

Barber: "It was too hot to hold, sir."

No Results

"I've just come back from the beauty parlor."

"Too bad you weren't waited on."

Or Accident

The teacher was explaining to a class of small boys and girls the meaning of the word "collision."

"A collision," she said, "is when two things come together unexpectedly. Now can anyone give me an example of a collision?"

"Twins," said a little tot.

New Style

"Curse it! Curse it!" hissed the villian, snatching at the girl's waist.

"No, it ain't either!" she retorted. "It's a girdle."

Water Hazard

"How long does it take you to dress in the morning?"

"Bout half an hour."

"Only takes me 10 minutes."

"I wash."

Maybe Both

"You want to speak to me? Out with it quickly; I'm busy. Do you want to marry my daughter or borrow money?"

"Er—well, which would you prefer, sir?"

So's the Old Man

"I tell you my love for you is making me mad—mad!"

"Well, keep quiet about it. It's had the same effect on father."

Puzzle

"Your suspicions of your cashier appear to be unfounded. We have investigated him and found that he lives quietly, simply and decently."

"Is that so. Well, let me give you an inside tip. He can't live decently on the salary I pay him."

Too Obvious

"Did you tell her, when you proposed to her, that you were unworthy of her? That always makes a big hit."

"I was going to—but she told it to me first."

And Sticky

"Liza, you remind me fo' all de world of brown sugah."

"How come, Sam?"

"You am so sweet and so unrefined."

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After carefully reviewing the forms of a number of oil companies, The Gulf Publishing Company has made up six standard forms listed below and has produced these in such quantities as to enable oil companies to secure them at substantial savings.

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INDEX TO ADVERTISERS

A

Page

Abercrombie Pump Co. 61
Allis-Chalmers Manufacturing Co. ..... —
Alten's Foundry & Machine Co. ..... —
American Askania Corporation ..... —
American Association of Petroleum Geologists ..... —
American Cable Co. 36
American Iron & Machine Works..Back Cover
American Lubricator Co. ..... —
American Meter Co. ..... —
American Roller Bearing Co. ..... —
American Sand-Banum Co. ..... —
American Steel & Wire Co. ..... —
Alexander Anderson, Inc. ..... —
B. K. Appleman ..... —
Armstrong Brothers Tool Co. ..... —
Ash Grove Lime & Portland Cement Co. .. —
Atlas Powder Co. ..... —
Axelson Manufacturing Co. ..... —

B

Baash-Ross Tool Co. 6
Baldwin-Duckworth Chain Corp. 39
Baker Oil Tools, Inc. 3
Baroid Sales Co. ..... —
The Barrett Co. ..... —
William M. Barret, Inc. ..... —
Beaumont Iron Works ..... —
Black-Sivalls & Bryson ..... —
Blackstone Hotel 80
Bowen Air Lines 76
Bradford Motor Works ..... —
Brance-Krachy Co. ..... —
Brauer Machine & Supply Co. ..... —
The Brewster Co. ..... —
Bridgeport Machine Co. 4
Broderick & Bascom Rope Co. ..... —
Buck & Stoddard, Inc. 69
E. D. Bullard Co. ..... —
Byron Jackson Co. ..... —

C

Cameron Iron Works ..... —
The Cavins Company ..... —
Central Exploration Co. ..... —
Chain Belt Co. ..... —
Chemical Process Corp. ..... —
Climax Engineering Co. ..... —
Columbian Steel Tank Co. ..... —
The Continental Supply Co. ..... —
Fred E. Cooper Co. ..... —
Cooper-Bessemer Corp. ..... —
The Corbett Corp. ..... —
Cotton Exchange and Board of Trade Building ..... —
Crescent Tool Co. ..... —
W. H. Curtin Co. ..... —

D

Darling Valve & Manufacturing Co. ..... —
Dayton Rubber Manufacturing Co. 27
Dearborn Chemical Co. ..... —
Diamond Metal Co. ..... —
Dowell, Inc. ..... —

E

Eastman Oil Well Survey Co. ..... —
Economy Electric Lantern Co. 66
E. H. Edwards Co. ..... —
Elliott Core Drilling Co. .....Third Cover
Emsco Derrick & Equipment Co. ..... —
Enardo Manufacturing Co. ..... —

F

Geo. E. Failing Supply Co. ..... —
The Edwin H. Fitler Co. ..... —
Foote Bros. Gear & Machine Co. ..... —
Fort Worth Laboratories 77
Frick-Reid Supply Corp. ..... —

G

Gardner-Denver Co. ..... —
The Garlock Packing Co. ..... —
Gaso Pump & Burner Manufacturing Co. .. —
Gas Power, Inc. ..... —

Page

Gearench Manufacturing Co. ..... —
General Electric Co. ..... —
L. H. Gilmer Co. ..... —
Goodall Rubber Co. of Texas ..... —
B. F. Goodrich Rubber Co. ..... —
Goodyear Tire & Rubber Co. 23
H. P. Gott Manufacturing Co. ..... —
Grant Oil Tool Co. ..... —
Gray-Kerotest ..... —
Gray Tool Co. 63
The Guiberson Corp. ..... —
Gulf Envelope Co. ..... —
The Gulf Publishing Co. .....4 and 71
Gulf States Utilities Co. ..... —
Gustin-Bacon Manufacturing Co. ..... —

H

Halliburton Oil Well Cementing Co. 30
Hamilton Brothers 73
Hardway & Cathey 77
Haynes Stellite Co. ..... —
Hazard Wire Rope Co. ..... —
C. M. Heeter Sons Co. ..... —
Hercules Motors Corp. ..... —
Hewitt Rubber Corp. ..... —
Hirsch, Susman & Westheimer 77
Hoard Exploration Co. 77
Houston Oil Field Materials Co. ..... —
Houston Ready-Cut House Co. ..... —
Hughes Tool Co. 14
Humble Oil & Refining Co. ..... —
Hyatt Roller Bearing Co. ..... —
Hydril Co. .....Front Cover

I

Independent Exploration Co. 77
Independent Pipe & Supply Co. 77
Ingersoll-Rand Co. ..... —
International Cement Corp. ..... —
International Derrick & Equipment Co. ... —
International Harvester Co. ..... —

J

Byron Jackson Co. ..... —
Jarecki Manufacturing Co. ..... —
The Jeffrey Manufacturing Co. ..... —
Jensen Brothers Manufacturing Co. ..... —
S. M. Jones Co. ..... —
Jones & Laughlin Steel Corp. ..... —

K

J. A. Kammerdiner Rotary Jar Co. ..... —
Kerotest Manufacturing Co. 48
Kibele Manufacturing Co. ..... —
Kobe, Inc. ..... —

L

Landis Machine Co. ..... —
Larkin Packer Co. ..... —
The Lane Wells Co. ..... —
Layne & Bowler Co. ..... —
Lenox Hotel 80
The Lincoln Electric Co. ..... —
Link Belt Co. 58
Neal Lucey Co. 77
Ludlow Valve Manufacturing Co. ..... —
Lufkin Foundry & Machine Co. ..... —

M

M. & V. Tank Co. ..... —
MacClatchie Manufacturing Co. ..... —
Maintenance Engineering Corp. 70
D. S. Mair Machinery Corp. ..... —
Maloney Tank Manufacturing Co. ..... —
Martin-Decker Corp. ..... —
F. G. Masquelette & Co. ..... —
J. M. McEvoy & Co. ..... —
McIntosh & Seymour Corp. ..... —
Geo. S. Mepham Corp. ..... —
Merchants Photo Service ..... —
Merco Nordstrom Valve Co. ....Second Cover
Miller Sand Pump Co. ..... —
Mission Manufacturing Co. ..... —
Lee C. Moore & Co. ..... —
Muskogee Iron Works ..... —

N

Page

National Bank of Tulsa ..... —
National Oil Scouts Ass'n ..... —
The National Supply Co. 33
National Tube Co. ..... —
The New Deal Specialty Co. ..... —
Norvell-Wilder Supply Co. ..... —

O

Oil Center Tool Co. ..... —
Oil City Brass Works ..... —
Oil Well Supply Co. ..... —
Osage Metal Co. ..... —
Oster-Williams ..... —

P

The Parkersburg Rig & Reel Co. ..... —
Patterson-Ballagh Corp. ..... —
Pelican Well Tool & Supply Co. ..... —
Petroleum Electric Power Club ..... —
Petroleum Rectifying Co. ..... —
Piccadilly Hotel ..... —
Pittsburgh Equitable Meter Co. ..... —
Pittsburgh Steel Co. ..... —

R

Raybestos-Manhattan, Inc. ..... —
Reading Iron Co. 73
Rector Well Equipment Co. ..... —
Reed Roller Bit Co. 25
The Republic Rubber Co. ..... —
Republic Portland Cement Co. 13
The Republic Steel Corp. ..... —
The Ridge Tool Co. ..... —
Dewey T. Ross, Inc. ..... —

S

Schlumberger Well Surveying Corp. ..... —
Scandinavia Belting Co. ..... —
Seismic Explorations, Inc. ..... —
Shaffer Tool Works ..... —
J. E. Shaffer Co. ..... —
Shand & Jurs Co. 65
Shell ..... —
Sinclair Refining Co. 40
SKF Industries, Inc. ..... —
E. M. Smith Co. ..... —
South Chester Tube Co. ..... —
Southern Chain Co. ..... —
Southern Pacific Lines ..... —
Southern States Co. ..... —
Spang & Co. ..... —
Sperry-Sun Well Surveying Co. 26
Standard-Tilton Milling Co. ..... —
Star Drilling Machine Company ..... —
Stone Oil Tool Co. 77

T

Templeton, Kenly & Co. ..... —
Texas Iron Works ..... —
Thermoid Rubber Co. ..... —
Tretolite Co. 37
Trimont Manufacturing Co. ..... —

U

Union Carbide & Carbon Corp. ..... —
Union Wire Rope Co. ..... —
United States Rubber Products, Inc. ..... —
U. S. Tool Corp. ..... —

W

Waukesha Motor Co. ..... —
Westinghouse Electric Manufacturing Co. .. —
Wheland Co. ..... —
Whitney Manufacturing Co. ..... —
Wickwire-Spencer Steel Co. 46
Williams Brothers, Inc. ..... —
C. K. Williams & Co. ..... —
J. H. Williams & Co. ..... —
Williamsport Wire Rope Co. ..... —
Wilson-Snyder Manufacturing Co. ..... —
Wilson Supply Co. ..... —
WKM Co. ..... —
Wyatt Metal & Boiler Works ..... —

Y

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High core recovery—safety—efficient, economical operation—all the factors which to any degree coordinate to insure dependable performance are built-in features of the Elliott Core Drill.

All the years of Elliott core drilling and core drill manufacturing experience; all field and laboratory work by Elliott engineers; are directed and utilized toward that important objective.

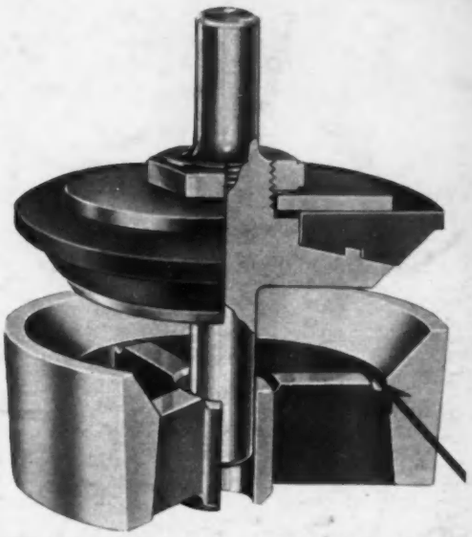
The Elliott is purposely made extremely simple in design, construction and operation. Each individual part and the complete assembly are thoroughly tested and proved in quality, strength, principle of operation, and performance before leaving the factory.

As a result, users in any part of the world are assured of the usual Elliott high standard of dependable performance—high recovery in the widest range of formations; maximum efficiency, economy and safety in operation.

ELLIOTT CORE DRILLING COMPANY
4731 EAST 52nd DRIVE • LOS ANGELES, CALIFORNIA, U.S.A.
EXPORT OFFICE: 1215 GRAYBAR BUILDING, NEW YORK CITY

ELLIOTT Rotary and Cable Tool CORE DRILLS

THIS VALVE



American Slush Pump Valve and Seat

★ Arrow indicates undercut

WILL CUT DOWN YOUR OPERATING COSTS . . .

The American Slush Pump Valve and Seat lowers operating costs because it helps to eliminate trouble caused by cutting out. On the Gulf Coast, and in other fields where there has been much of this trouble, the American Valve has stood the test. It has few parts and they are made of materials specially developed for their particular use. The cross members are undercut to prevent foreign substances from fouling seat. Ask your supply store for a set of American Valves and prove to yourself that you can save money by using them.

AMERICAN IRON & MACHINE WORKS CO.

HOUSTON, TEXAS
KILGORE, TEXAS

OKLAHOMA CITY
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